Welcome

Congratulations on your purchase of this Sony VAIO® computer, and welcome to the online VAIO® Computer User Guide. This user guide provides detailed information on all aspects of using your new VAIO computer, from keyboard functions to preinstalled software programs.
In the left navigation window, click the topics you want to learn more about, and that information will be displayed in this main window.

View the Electronic Flyer, which provides updates and supplemental information about your computer.

Go to the Sony Computing Support Web site to view the VAIO® Computer Specifications, which list your computer's hardware specifications and preinstalled software information.

For Sony software information, click **Start** and select **Welcome to VAIO life**.

Ergonomics and Caring for Your Computer

This section provides information on how to safely use your Sony computer.

Applying Ergonomics

Your computer is a portable device and can be used in a variety of environments. Whenever possible, you should apply the following ergonomic considerations:

- **Position of your computer —** Place the computer directly in front of you as you work. Keep your forearms horizontal, with your wrists in a neutral, comfortable position while using the keyboard, touch pad, or external mouse. Let your upper arms hang naturally at your sides. Take breaks during sessions with your computer. Excessive use of the computer may strain muscles or tendons.

- **Furniture and posture —** Sit in a chair with good back support and armrests. Adjust the level of the chair so your feet are flat on the floor. A footrest may make you more comfortable. Sit in a relaxed, upright posture and avoid slouching forward or leaning far backward.

- **Viewing angle of the computer's display —** Tilt the display to find the best viewing angle. Also try adjusting the brightness setting of the display. Following these suggestions can reduce eye strain and muscle fatigue.

- **Lighting —** Choose a location where windows and lights do not create glare or reflection on the display. Use indirect lighting to avoid bright spots on the display. You can purchase accessories for your display that help reduce glare. Proper lighting adds to your comfort and work effectiveness.

- **Placement of an external display —** When using an external display, set the display at a comfortable viewing distance. Make sure the display screen is at eye level or slightly lower when you are sitting in front of the monitor.

Storing Your Computer

- Do not use or store your computer in a location subject to:
  - Heat sources, such as radiators or air ducts
  - Direct sunlight
  - Excessive dust
  - Moisture or rain
  - Mechanical vibration or shock
  - Strong magnets or speakers that are not magnetically shielded
  - Ambient temperature higher than 95ºF (35ºC) or less than 40ºF (5ºC)
  - High humidity
- Do not place electronic equipment near your computer. When running, the computer's electromagnetic field may cause other electronic equipment in close proximity to malfunction.
- Provide adequate air circulation to prevent internal heat buildup. Do not place your computer on porous surfaces such as rugs or blankets, or near materials such as curtains or draperies that may block ventilation. Leave a space of at least 8 inches (20 cm) behind the back of the computer.
- If the computer is brought directly from a cold location to a warm one, moisture may condense inside your computer. In this case, allow at least one hour before turning on your computer. If any problems occur, unplug your computer, and contact your Sony Service Center.
- The computer uses high-frequency radio signals and may interfere with radio or TV reception. Should this occur, move the computer a suitable distance away from the radio or TV.
- Do not drop the computer or place heavy objects on top of the computer.

Using Cables and Connections

- Use only specified peripheral equipment and interface cables.
- Do not use cut or damaged connection cables.
- If the telephone company makes a service call to your home or office and determines that your computer is responsible for a problem, the telephone company may bill you for the service call. Also, if you do not disconnect your computer when it is adversely affecting a telephone line, the telephone company has the right to disconnect your service until you correct the problem.

Cleaning and Maintaining Your Computer

- Clean the computer with a soft, dry cloth or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine, as these may damage the finish of your computer. You can use canned compressed air specifically for computers to remove dust.

- If a solid object falls onto the computer or a liquid leaks into the computer, immediately turn off and unplug the computer. It is best to have the computer checked by qualified personnel before you use it again.

- Avoid rubbing the LCD screen as this can damage the screen. Use a soft, dry cloth to wipe the LCD screen or canned compressed air.

- Always disconnect the power cord before cleaning the computer.

- Your computer is equipped with a cooling fan and heat sink that help your computer maintain a safe operating temperature. These areas must be kept clean and free from debris, such as dust, dirt, pet hair, or other particles that can restrict the flow of air. If dust is allowed to accumulate in the cooling fan and heat sink area, your computer may overheat and stop operating properly.

    - Avoid using your computer in locations that are subject to excessive dust or dirt, such as the floor or on the ground.

    - Avoid using your computer on or near surfaces that may have dust or shedding fibers, such as rugs, blankets, curtains, or draperies.

    - Avoid using your computer in areas where pets are kept, or pet hair accumulates.

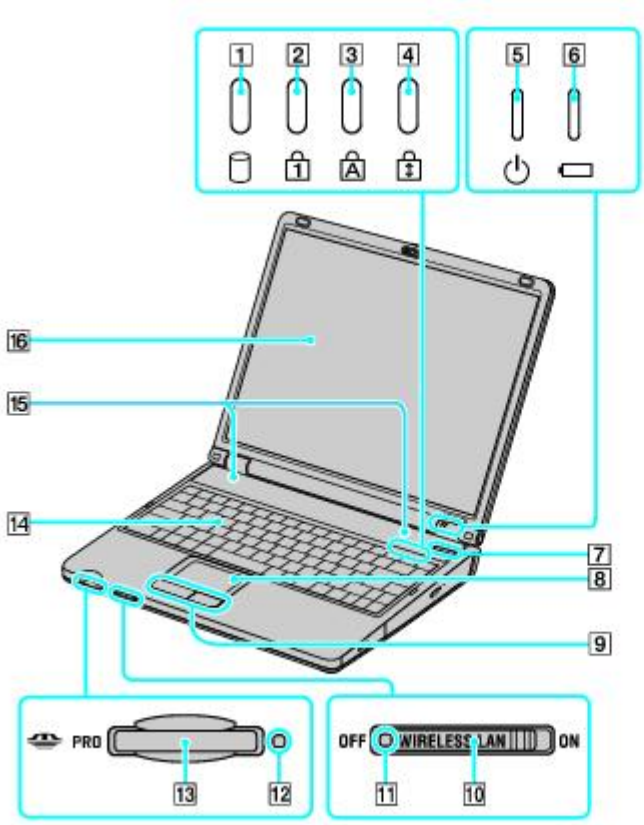
Handling the LCD Screen

- Direct sunlight can damage the LCD. Be careful when using the computer near a window.
- Do not scratch the LCD or exert pressure on it. This can cause a malfunction.
- Using the computer in low temperature conditions may produce a residual image on the screen. This is not a malfunction. When the computer returns to normal temperature, the screen returns to normal.
- The screen becomes warm during operation. This is normal and does not indicate a malfunction.
- The LCD is manufactured using high-precision technology. You may, however, see tiny black points and/or bright points (red, blue, or green) that continuously appear on the LCD. This is a normal result of the manufacturing process and does not indicate a malfunction.

- Locating Controls and Ports
- Using the Touch Pad
- Using Memory Stick Media

Controls and ports on your computer

Front



1 Hard disk drive indicator

2 Num lock indicator

3 Caps lock indicator

4 Scroll lock indicator

5 Power indicator

6 Battery indicator

7 Power button

8 Touch pad

9 Left and right buttons

10 Wireless LAN switch

11 Wireless LAN indicator

12 Memory Stick® media indicator

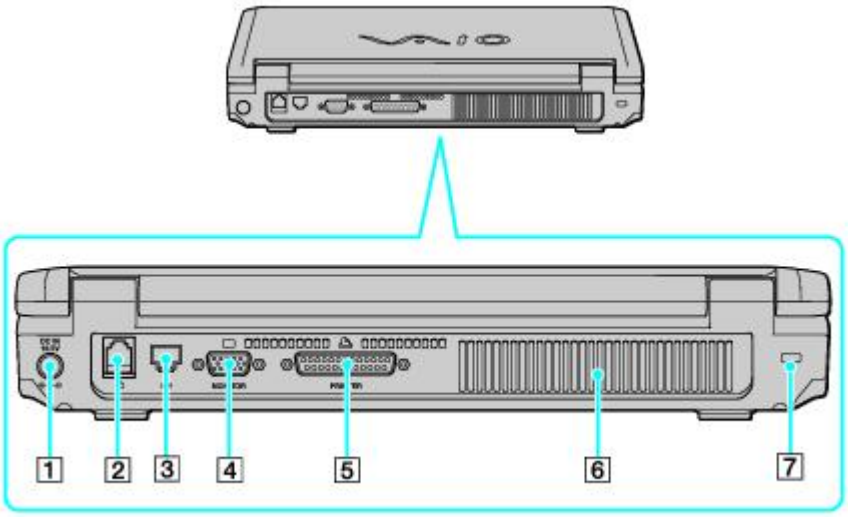
13 Memory Stick media slot

14 Keyboard

15 Speakers

16 Computer screen (LCD)

Back



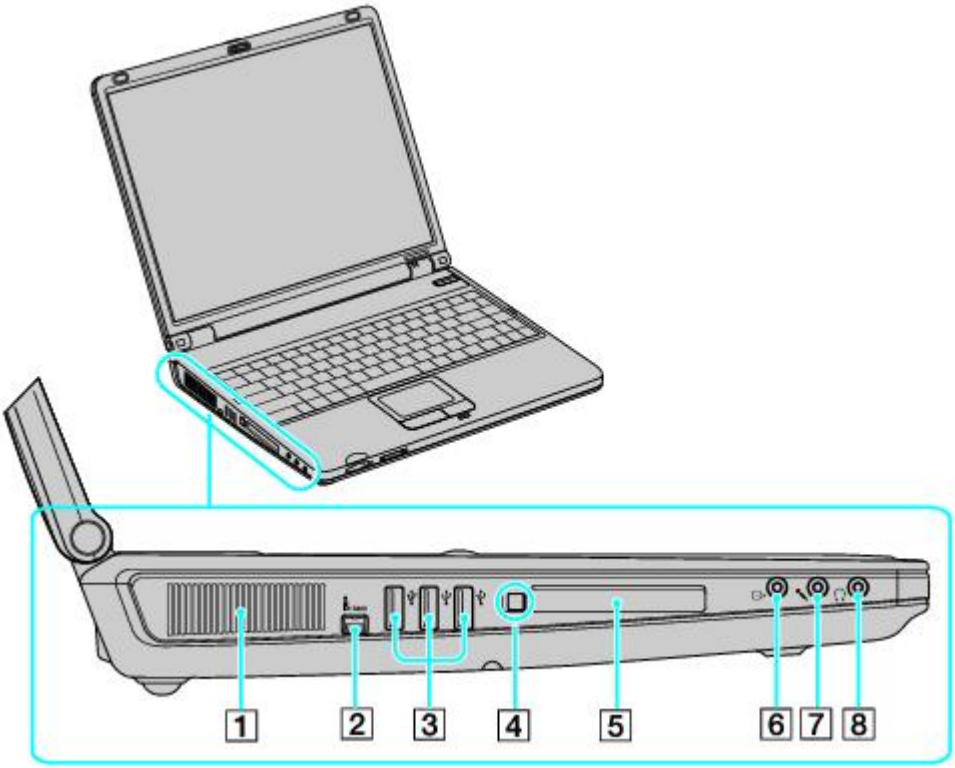
1 DC IN port **4** Monitor (VGA) port

2 Modem jack **5** Parallel (printer) port

3 Network (Ethernet) port **6** Air vent

⚠ **Only connect 10BASE-T or 100BASE-TX cables to the Network (Ethernet) port. Do not connect any other type of network cable or any telephone line to this port. Connecting cables other than those listed above may result in an electric current overload and could cause a malfunction, excessive heat, or fire in the port.**

Left



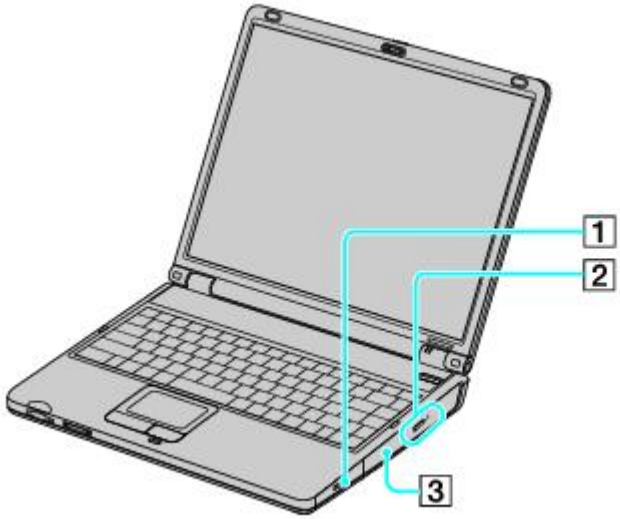
1 Air vent **5** PC Card slot

2 i.LINK® (IEEE 1394) S400 port **6** AV OUT jack

3 USB 2.0 ports **7** Microphone jack

4 PC Card eject button 8 Headphone jack

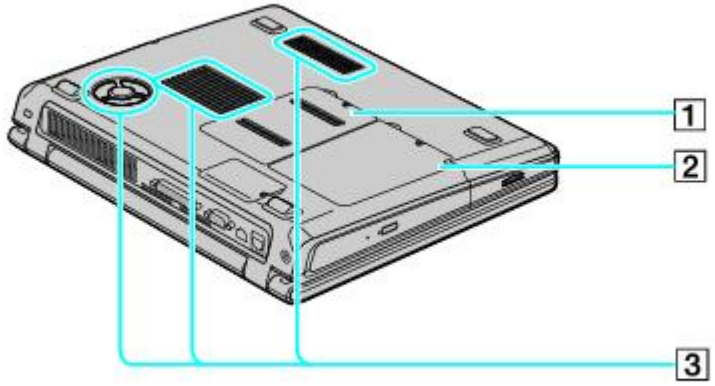
Right



1 Battery bay **3** Optical drive

2 Optical drive eject button, optical drive indicator, and manual eject hole

Bottom

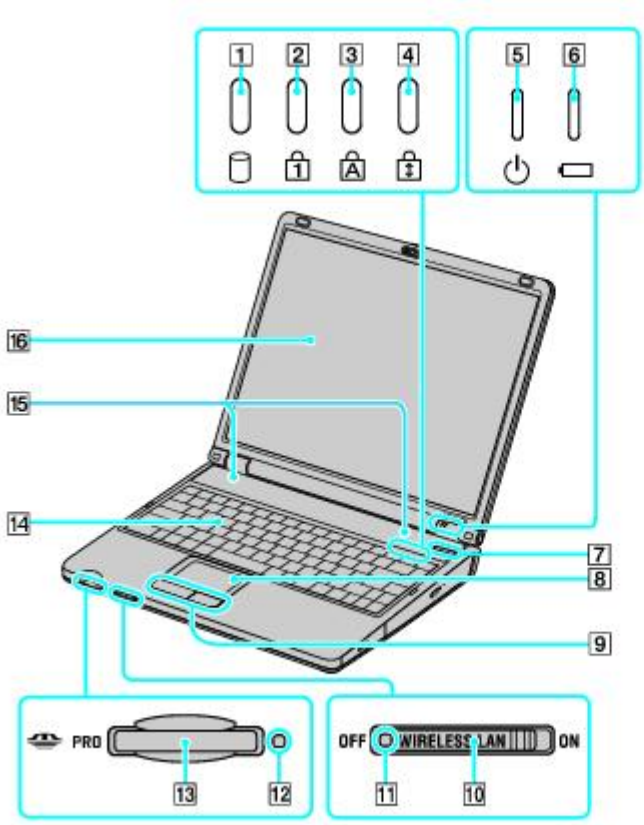


1 Memory bay **2** Hard disk drive bay

3 Air fan and vents

Controls and ports on your computer

Front



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16 Computer screen (LCD)

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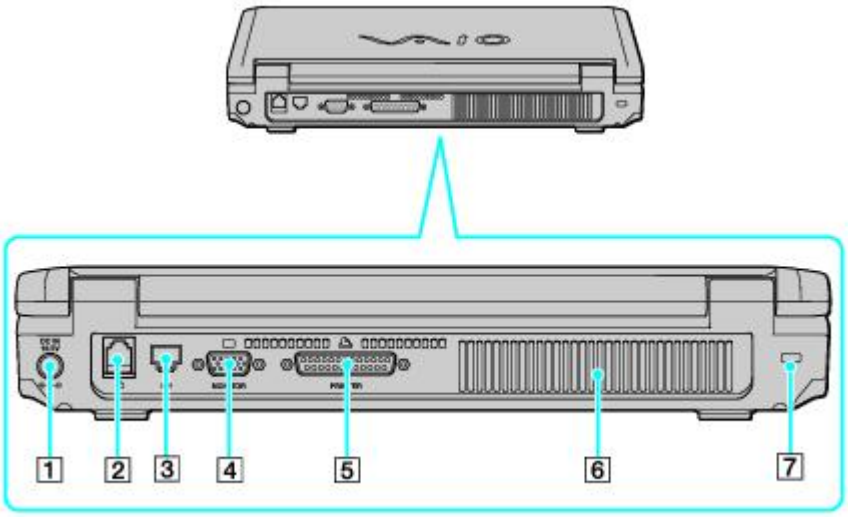

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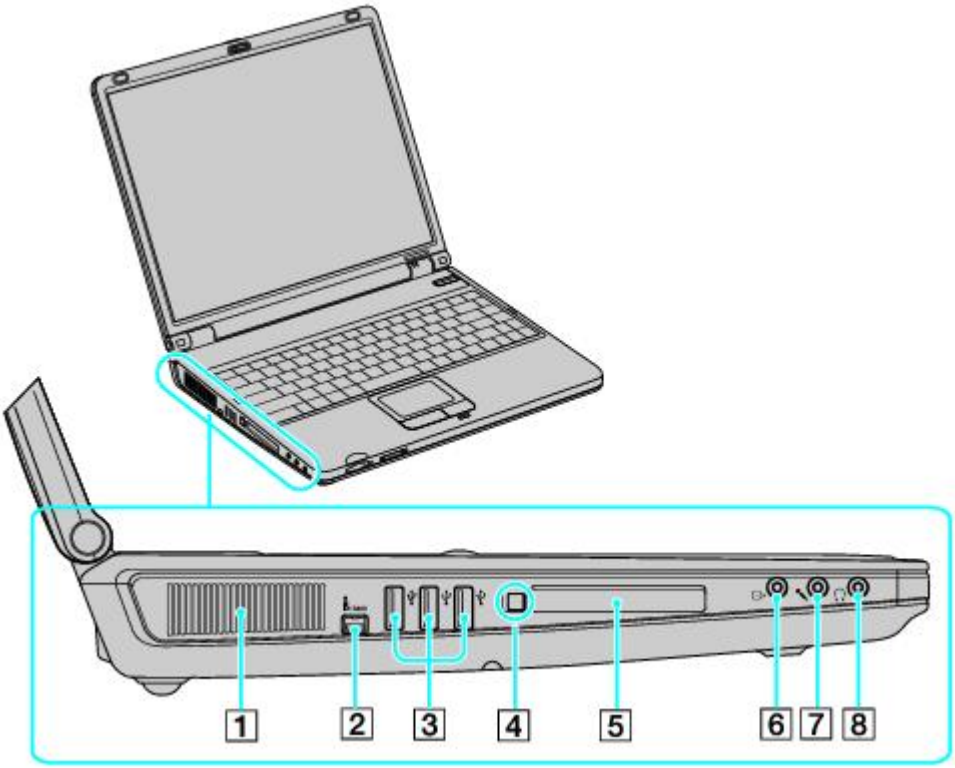

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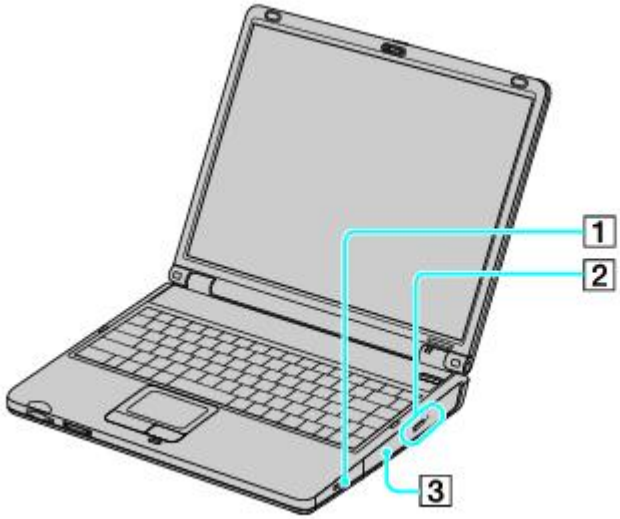

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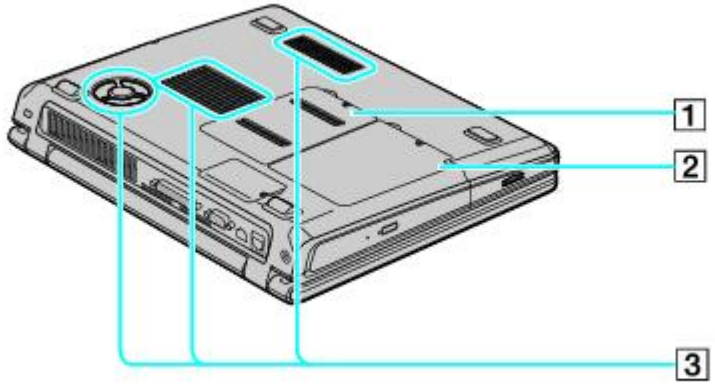


1 Memory bay **2** Hard disk drive bay

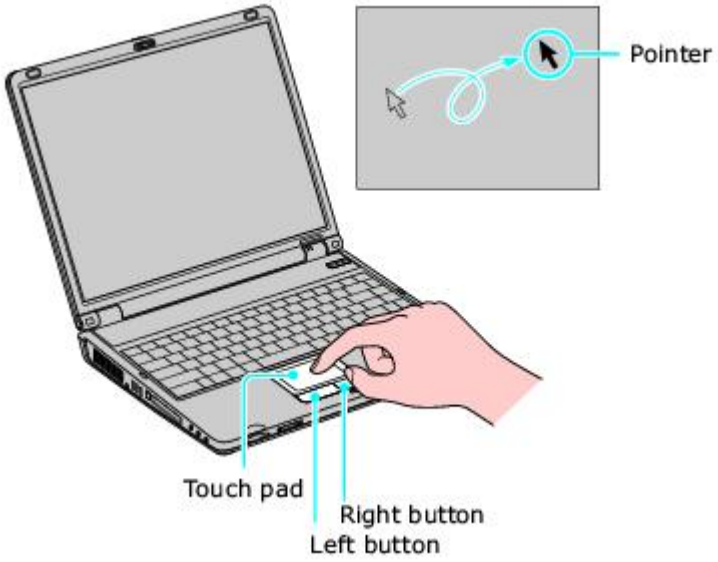
3 Air fan and vents

Using the Touch Pad

A pointing device called a touch pad is located in front of the keyboard. You can point to, select, drag, and scroll objects on the screen using the built-in touch pad.

Describing the touch pad

Locating the Touch Pad



Touch Pad Action	Description
Sliding one finger	Equivalent to using a mouse to place the pointer on an item.
Tapping once	Equivalent to pressing the left button once.
Tapping twice	Equivalent to pressing the left button twice.
Sliding one finger while pressing the left button	Equivalent to using the mouse to drag an item.
Moving your finger along the right edge of the touch pad	Equivalent to scrolling vertically. (The scroll function is available only with programs that support a touch pad scroll feature.)
Moving your finger along the bottom to scroll horizontally	Equivalent to scrolling horizontally. (The scroll function is available only with programs that support a touch pad scroll feature.)

Customizing the touch pad

You may customize, enable, or disable the touch pad using the Built-in Pointing Device feature of the VAIO Control Center. You also have the option to set your touch pad and mouse preferences, such as changing pointers, enabling or disabling the tapping feature, clicking both buttons simultaneously, and adjusting the touch pad speed.

To customize the touch pad and mouse

- Right-click the **Touchpad** icon on the **Taskbar Notification** area, and click **Mouse Properties** from the shortcut menu. The **Mouse Properties** dialog box appears.
- Click **Start** on the Windows® taskbar, point to **All Program**, and click **VAIO Control Center**. Select the List tab view. Double-click **Built-in Pointing Device**. When the **Built-in Pointing Device** dialog box appears, click **Settings**. The **Mouse Properties** dialog box appears.

To enable the touch pad

1. Press the **Windows** key . The **Start** menu appears.
2. Press **P** until **All Programs** is selected, and press **Enter**.
3. Press **V** until **VAIO Control Center** is selected, and press **Enter**. The **VAIO Control Center** dialog box appears.
4. Select the **List** tab view.
5. Use the arrow keys to select **Built-in Pointing Device**, and press **Enter**.
6. Press the **Tab** key to select the **Enable** option, then press the +/= key, and press **Enter**.

To disable the touch pad

1. Click **Start** on the Windows® taskbar, and point to **All Programs**.
2. Click **VAIO Control Center**. The **VAIO Control Center** dialog box appears.
3. Select the **List** tab view.
4. Double-click **Built-in Pointing Device**. The **Built-in Pointing Device** dialog box appears.
5. Press the **Tab** key to select the **Enable** option, if it is not already selected.
6. Click to deselect the **Enable** checkbox, and click **OK**. A caution message appears.
7. Click **Yes** to close the message and disable the touch pad.

Frequently asked questions

What do I do if the touch pad does not work?

- Try restarting your computer. Follow these steps:

  1. Press the **Windows** key .
  2. Press **U**. The **Turn off computer** window opens.
  3. Press **R** to restart the computer.

- If the computer does not restart,

  1. Press **Ctrl**+**Alt**+**Delete** simultaneously. The **Windows Task Manager** window appears.
  2. Press and release **Alt** to highlight the menu bar, and press the **Right Arrow** key to select **Shut Down**.
  3. Press **Enter**.
  4. Press **R** to restart the computer.

- If you still cannot restart your computer, press and hold the power button to turn off the computer.
- If the pointer does not move while playing a disc, press **Ctrl**+**Alt**+**Delete** simultaneously to stop playback and restart the computer.
- If you are still experiencing problems, make sure another mouse is not installed.
- You may have disabled the touch pad without connecting a mouse to the computer. See To enable the touch pad.

How do I change the left and right button assignments?

If your computer is interpreting a single-click as a double-click or a left-click as a right-click, you may want to change the button assignments. Follow these steps:

1. Click **Start** on the Windows® taskbar and click **Control Panel,** and then click **Printers and Other Hardware** and **Mouse.** The **Mouse Properties** dialog box appears with the **Buttons** tab selected.
2. Select your preferences in the **Button configuration** box, and then click **Apply** to install your settings.

   ✍ You may need to use the **Tab** key and the **Up Arrow** and **Down Arrow** keys to make your selections.
3. Click **OK** to close the window.

Using Memory Stick Media

This compact, portable, and versatile recording medium has a data capacity exceeding that of a floppy disk. The medium is specially designed for exchanging and sharing digital data with compatible products. Because it is removable, the media can be used for external data storage.

Selecting Memory Stick media

Memory Stick® media are a compact, portable, and versatile data storage media designed for exchanging and sharing digital data with compatible devices. The following types of Memory Stick media are available, but compatibility with your computer can vary.

- Memory Stick PRO media — Provides MagicGate copyright protection and high-speed transfer features when used with compatible Memory Stick PRO devices. VAIO® computers support Memory Stick PRO media for data storage purposes only. Currently, high-speed data transfer and the MagicGate technology features, such as authentication and encryption, are not available. You can store different data formats on a single Memory Stick PRO media.

- MagicGate Memory Stick media (MG Memory Stick media) — Provides copyright protection with authentication and encryption, using Sony® MagicGate technology. Authentication ensures that protected content is only transferred between compliant devices and media. Protected content can be recorded and transferred in an encrypted format to prevent unauthorized duplication or playback. You can store different data formats on a single Memory Stick media.

- Memory Stick Duo media — Provides the same features and benefits of MagicGate Memory Stick media, in a form that is 1/3 smaller in size.

- Memory Stick media — Provides data storage only. The Memory Stick media does not provide MagicGate technology or high-speed data transfer. You can store different data formats on a single Memory Stick media.

Currently, Sony® SonicStage and OpenMG software are not compatible with the new Memory Stick PRO media. Sony suggests using only MG Memory Stick media to store and transfer any data created with SonicStage or OpenMG software.

Visit the Sony Computing Support Web site at http://www.sony.com/pcsupport regularly for the latest information on the new Memory Stick PRO media.

Memory Stick media do not support AVI video file playback directly from the media. Copy the video file to your hard disk drive and then play back the file.

Inserting Memory Stick media

Before using Memory Stick media, back up important data. The media slot accommodates only one Memory Stick media at a time.

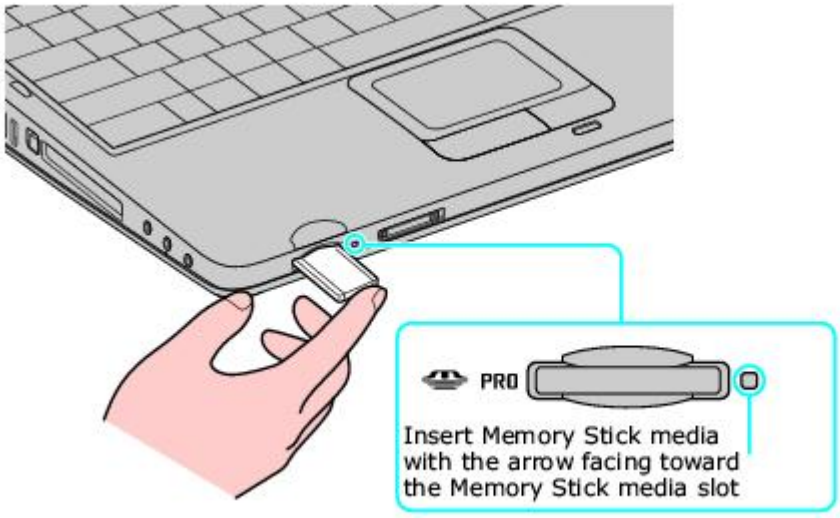
To insert Memory Stick media

1. Insert the Memory Stick media with the arrow facing up and toward the Memory Stick media slot.

   Inserting the media in the wrong direction may damage the connector pins.

2. Carefully slide the Memory Stick media into the slot until it clicks in place. The Memory Stick media indicator briefly blinks.

Inserting Memory Stick Media



Viewing the contents

Depending on the model you purchased, the Sony Memory Stick window may appear when you insert a Memory Stick media. From this window, you can choose to view, print, copy or organize your Memory Stick images or data. If the Sony Memory Stick window does not appear when you insert your Memory Stick media, then follow these steps:

To view the contents

1. From the **Start** menu, click **My Computer**. The **My Computer** window appears.

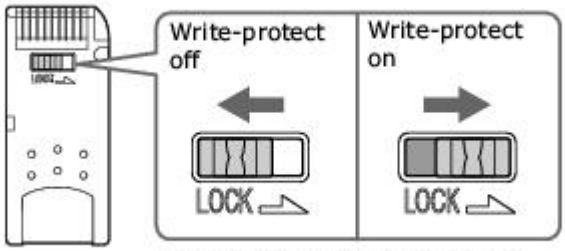
2. Click **Sony MemoryStick**. The **Sony MemoryStick** window appears, displaying the contents stored on the Memory Stick media.

Write-protecting Memory Stick media

Memory Stick® media is designed with a write-protect tab to protect data from accidental erasure or overwriting. Move the tab to the right or left to set or release write-protection. When the write-protect tab of the Memory Stick media is set to LOCK, data cannot be recorded or erased.

Write-protect off	Data can be saved on the Memory Stick media.
Write-protect on	Data can be read from but not saved on the Memory Stick media.

Using the Write-Protect Tab



(Back of Memory Stick Media)

Formatting Memory Stick media

Memory Stick® media is formatted for immediate use when you purchase it. If you need to reformat Memory Stick media, use the Memory Stick Formatter that is provided with the media. For more information about using Memory Stick Formatter, refer to Formatter Help.

Formatting Memory Stick media erases all data, including music data, previously saved to it. Before you reformat Memory Stick media, confirm that the media does not contain files you want to keep. Back up important data before formatting the media.

To format Memory Stick media

1. Insert the Memory Stick media into the Memory Stick media slot. See To insert Memory Stick media for more information.
2. From the **Start** menu, point to **All Programs**.
3. Point to **Memory Stick Utility**, and click **Memory Stick Formatter**.
4. If a **Warning** window appears, follow the on-screen instructions and click **OK**.
5. On the **Memory Stick Formatter** window, click **Start Format** and follow the on-screen instructions.
6. Click **Exit** when you are finished.

Removing Memory Stick media

If the media is removed prematurely, a blue screen with a message may appear prompting you to continue or exit. Reinsert the media into the slot and press **Enter** to continue. This enables the media to finish reading or writing data.

To remove Memory Stick media

1. Wait a minimum of 10 seconds after the Memory Stick media finishes reading or writing data before removing the media.
2. Make sure the access light is off.
3. Push the Memory Stick media in toward the computer.
4. When the Memory Stick media ejects, pull it out.

Frequently asked questions

Why can't I open my image files?

You may need to reformat your Memory Stick media.

Formatting Memory Stick media erases all data, including music data, previously saved to it. Before you reformat Memory Stick media, back up important data and confirm that the media does not contain files you want to keep.

1. Copy the data from the Memory Stick media onto your computer's hard disk to save data or images.
2. Format the Memory Stick media using Memory Stick Formatter software preinstalled on your computer. For instructions about formatting a Memory Stick media, see Formatting Memory Stick media.

Why can't I save music files onto my Memory Stick media?

- Copyright protected music cannot be checked out to any Memory Stick media other than MG Memory Stick media.
- Using recorded music requires permission of the copyright holders.
- Sony is not responsible for music files that cannot be recorded from a CD or downloaded from other sources.

Can I copy images from a digital video camera using Memory Stick media?

Yes, and you can view video clips that you have recorded with Memory Stick media-compatible video camera recorders.

How do I prevent damage to the Memory Stick media?

- Do not use the media in locations that are subject to static electricity or electrical noise.
- Do not touch the media connector with your finger or metallic objects.
- Do not attach labels other than the supplied label to a media.
- Do not bend, drop, or apply strong shock to the media.
- Do not disassemble or modify the media.
- Do not allow the media to get wet.

How do I extend the life of the Memory Stick media?

- Use the supplied storage case. See the instructions that came with your media for more information on its use.
- Do not use or store the media in a location that is subject to:
  - Extremely high temperatures, such as in a car parked in the sun
  - Direct sunlight
  - High humidity or places with corrosive substances

Mice and Keyboards

- Using the Keyboard
- Connecting External Mice and Keyboards

Using the Keyboard

Your keyboard is very similar to a typewriter's, but your computer keyboard has additional keys that perform specific computer-related tasks.

- Key descriptions
- Combinations and functions with the Windows key
- Indicator Lights
- Combinations and functions with the Fn key

Key descriptions

Key **Description**

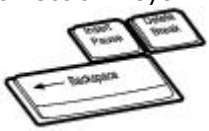
Numeric keypad

Contains the keys found on a typical calculator. Use the numeric keypad area to type numbers or to perform mathematical calculations, such as addition and subtraction. Numbers appear on the front beveled edge of the numeric keys. Press the Num Lock key to activate the numeric keypad. (When you do so, the Num Lock indicator light turns on.) Press the Num Lock key again to deactivate the numeric keypad.

Arrow keys

The Left, Right, Up, and Down arrow keys move the pointer on the screen. They also function as the Home, End, Page Up, and Page Down keys, respectively, when the Fn key is pressed.

Correction keys



The Insert, Back Space, and Delete keys enable you to make corrections to keystrokes.

Function keys

The 12 function keys along the top of the keyboard are used to perform designated tasks. For example, in many programs, F1 is the Help key. The task associated with each function key may vary from one program to the next.

Escape key

The Esc (Escape) key is used to cancel commands.

Print Screen key

The Print Screen key takes an electronic snapshot of the screen and moves it to the Clipboard. You can then paste the screen shot into a document and print it.

Operator keys
(Ctrl, Alt, Shift keys)

Several keys are always used with at least one other key: Ctrl, Alt, and Shift. When held down with another key, the Ctrl (Control) and Alt (Alternate) keys offer another way to give commands. For example, in many programs, instead of choosing the Save command from a menu, you can hold down **Ctrl** and press **S** (referred to as **Ctrl+S**). The Shift key operates the same way as on a typewriter; it is used to produce capital letters or special symbols, such as @ and $.

Windows key

The key with the Microsoft® Windows® operating system logo displays the Start menu; it is the equivalent of clicking Start on the taskbar. See Combinations and functions with the Windows key for more information.

Fn key

The Fn key is used in combination with other keys to issue commands. See Combinations and functions with the Fn key for more information.

Applications key

The Applications key displays a shortcut menu of context-sensitive choices. Pressing this key is the

equivalent of clicking the right mouse button.

Combinations and functions with the Windows key

Combination	Function
+F1	Displays the VAIO Help and Support Center window.
+Tab	Switches the selected button on the taskbar.
+D	Displays the desktop.
+E	Displays the My Computer window.
+F	Displays the Search Results window, where you can find a file or folder. This is the equivalent of selecting Search from the Start menu.
+Ctrl+F	Displays the Search Results - Computers window, where you can locate other computers. This is the equivalent of selecting Search, and then Computer from the Start menu.
+M	Minimizes all displayed windows.
Shift+ +M	Returns all minimized windows to their previous size.
+R	Displays the Run window. This is the equivalent of selecting Run from the Start menu.
Fn+ +Insert	Displays the System Properties window. This is the equivalent of selecting Control Panel, and then System from the Start menu.

Indicator Lights

Indicator	Function
Power	
	Turns on when the power to the computer is on, blinks in Standby mode, and turns off when the computer is in Hibernate mode or off.
Battery	
	Turns on when the computer is using battery power, blinks when the battery is running out of power, double-blinks when the battery is charging.
Memory Stick®	
	Turns on when data is read from or written to the Memory Stick media. (Do not enter Standby mode or turn off the computer when this indicator is on.) When the indicator is off, the Memory Stick media is not being used.
Hard Disk	
	Turns on when data is read from or written to the hard disk. Do not enter Standby mode or turn off the computer when this indicator is on.
Num Lock	
	Press this key to activate the numeric keypad. Press it a second time to deactivate the numeric keypad. The numeric keypad is not active when the indicator is off.
Caps Lock	
	Press this key to type letters in uppercase. Letters appear in lowercase if you press Shift while the indicator is on. Press the key a second time to turn off the indicator. Normal typing resumes when the Caps Lock indicator is off.
Scroll Lock	
	Press this key to change how you scroll the display. Normal scrolling resumes when the Scroll Lock indicator is off. The Scroll Lock key functions differently depending on the program you are using and does not work with all programs.
Wireless LAN[1]	Turns on when the wireless LAN function is running.

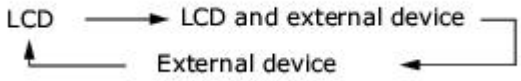
[1] On selected models only.

Combinations and functions with the Fn key

Combinations/

Feature	Function
Fn+F2	Toggles the built-in speakers off and on.
Fn+F3	Decreases the volume when the Fn key is pressed, and the F3 key is tapped.
Fn+F4	Increases the volume when the Fn key is pressed, and the F4 key is tapped.
Fn+F5	Decreases the screen brightness when then the Fn key is pressed, and the F5 key is tapped.
Fn+F6	Increases the screen brightness when then the Fn key is pressed, and the F6 key is tapped.

Fn+F7 Toggles the display between the computer screen (LCD), a connected external device, such as a monitor or projector, and both the LCD and external device.



Select one display at a time when playing a DVD. Connect the cable before you turn on the computer; otherwise, Fn+F7 may not work.

Fn+F12 Puts the system into Hibernate mode, a power management state. To return the system to normal operating mode, press the power button. Hibernate mode consumes the lowest level of power.

Connecting External Mice and Keyboards

Your computer is compatible with many popular mice and keyboards. To function properly, the device you connect must be compatible with the Microsoft® Windows® operating system installed on your computer. For information about your computer's built-in keyboard and key functions, see Key descriptions.

- Connecting a mouse or keyboard
- Disconnecting a mouse or keyboard
- Frequently asked questions

Connecting a mouse or keyboard

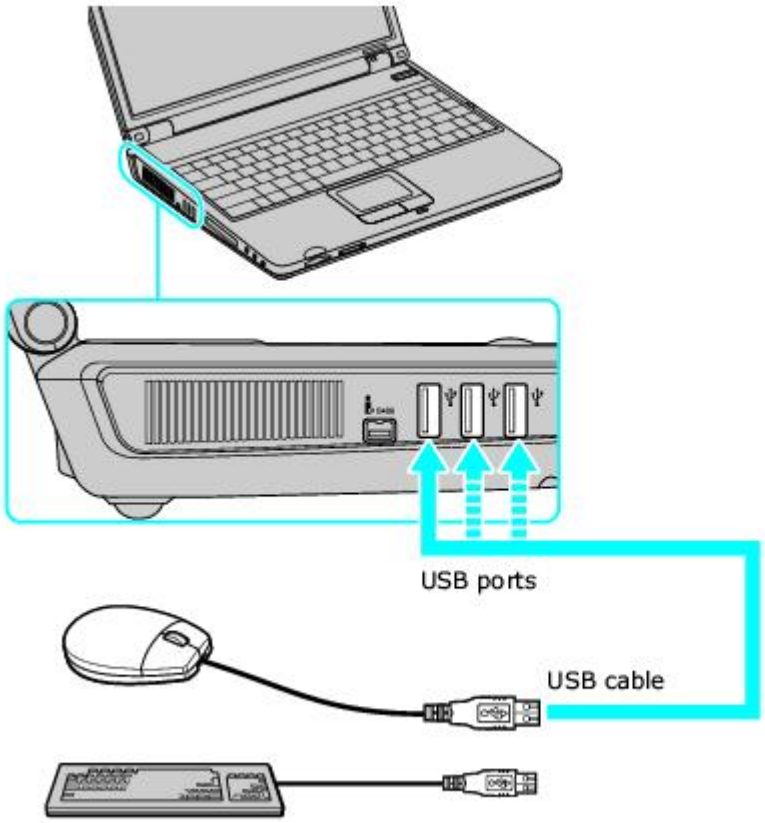
Your computer can be on or off when connecting a universal serial bus (USB) mouse or keyboard. If you connect the mouse or keyboard when the computer is on, you may need to restart the computer for it to recognize the device. See Frequently asked questions for more information.

To connect a USB mouse or keyboard to your computer

1. Plug the USB cable into the USB port . See "Locating Controls and Ports" in the "Setting Up" chapter of your printed VAIO® Computer Quick Start. (One USB port supports one USB connection.)
2. If the **New Hardware Wizard** appears, follow the on-screen instructions to complete the installation process.

Although the New Hardware Wizard guides you through the software installation, some devices require separate driver software installation. See the instructions that accompanied your mouse or keyboard for more information

Connecting a USB Mouse or Keyboard



Disconnecting a mouse or keyboard

You can disconnect a USB mouse or keyboard when the computer is on or off. Disconnecting the mouse or keyboard when the computer is in a power saving mode (Standby or Hibernate) may cause the computer to malfunction.

To disconnect a mouse or keyboard

- Unplug the USB cable from the USB port.

Frequently asked questions

What do I do if the computer doesn't recognize the mouse?

- Make sure the mouse is securely plugged into the port. See Connecting a mouse or keyboard for more information.
- Restart the computer with the mouse connected to the computer.

What do I do if the pointer doesn't move when I use the mouse?

- Make sure another mouse is not installed.
- If you are playing a disc, press the **Ctrl**+**Alt**+**Delete** keys simultaneously to stop playback and restart the computer.
- If you still cannot use the pointer, restart the computer. You can restart the computer three different ways:
  - Press the **Windows** key , and press **U**. When the **Turn Off Computer** window appears, press **R**.
  - Press the **Ctrl**+**Alt**+**Delete** keys simultaneously. When the **Windows Task Manager** window appears, press the **Alt** key to highlight the menu bar, and press the **Right Arrow** key to select **Shut Down**. Press **Enter**, and then press **R**.
  - Press and hold the power button. When the computer turns off, press the power button again to restart the computer.

Powering Your Computer

Your VAIO® computer comes with a battery and an AC adapter. This chapter explains how to install and use these supplied accessories to power your computer. It also describes ways you can efficiently utilize the battery as a power source.

- Using AC Power
- Using the Battery
- Conserving Battery Power

Using AC Power

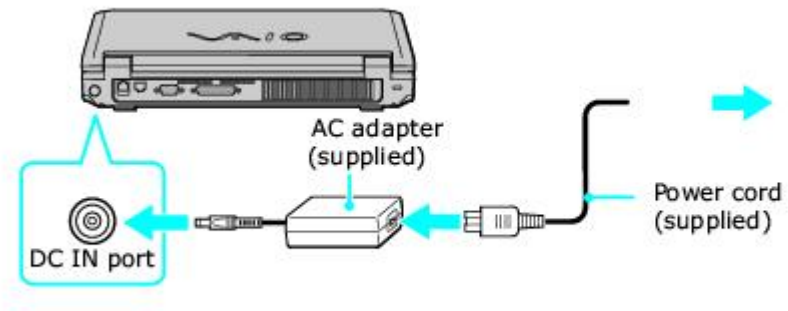
The supplied battery is not charged when you unpack it. To use your computer immediately, attach the supplied AC adapter and use it to power your computer. See Using the Battery for more information on installing and using your battery.

Connecting the AC adapter

To connect the AC adapter

1. Plug the AC adapter cable into the DC IN port.

Connecting the AC Adapter to the Computer



2. Plug the power cord into the AC adapter and an AC outlet.

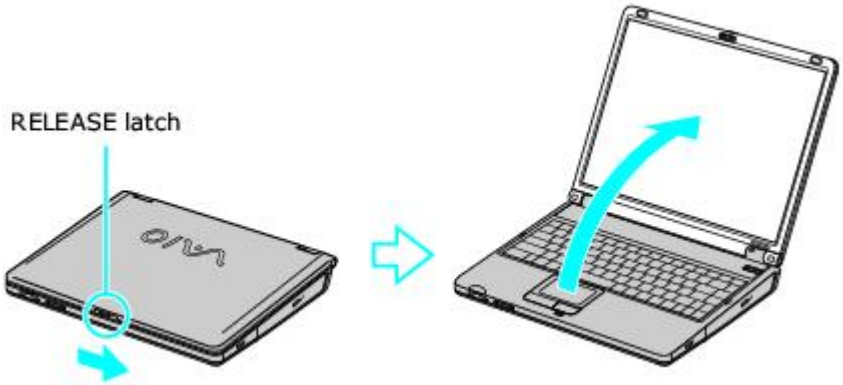
✍ Use only the supplied AC adapter with your computer.

Turning on the computer

To turn on the computer

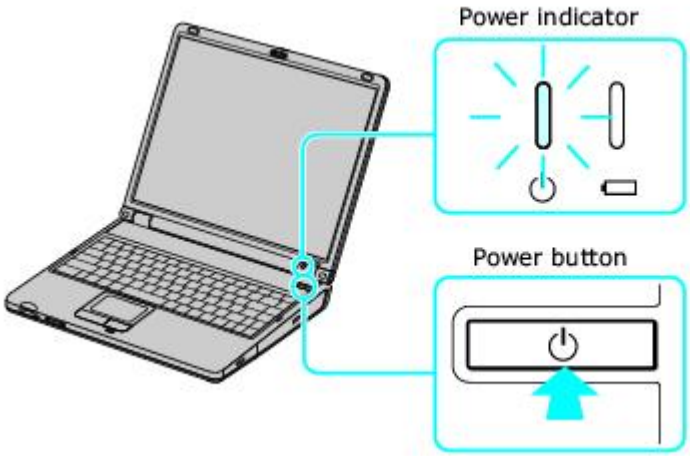
1. Slide the RELEASE latch to the right and lift the lid while holding the bottom of the computer firmly.

Opening the Computer



2. Press the power button until the power indicator turns on.

Turning on the Computer



If you hold the power button down, the computer turns off.

3. If the computer screen is too dark or too bright, follow these steps to adjust the brightness:
   - To increase brightness, press the **Fn** key and tap the **F6** key.
   - To decrease brightness, press the **Fn** key and tap the **F5** key.

Using the Battery

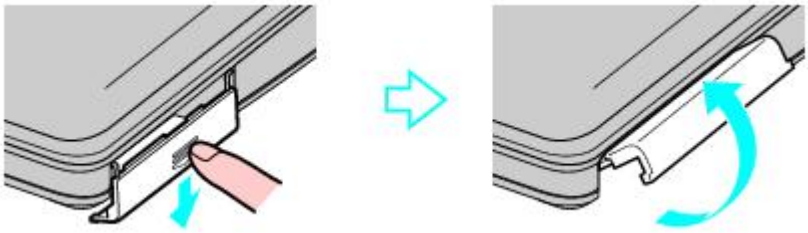
The supplied battery is not charged when you unpack it. To charge it for future use, install the battery, and then connect the AC adapter to power your computer. The battery charges from AC power regardless if the computer is on or off. For information on how to extend the life of the battery, see Conserving Battery Power.

Inserting a battery

To insert a battery

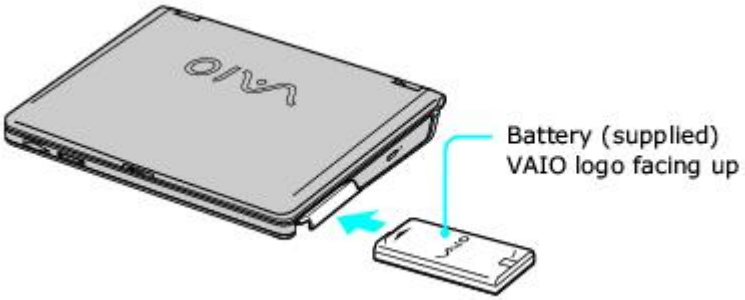
1. Push the battery bay cover down to open it. The battery bay cover swings out but does not detach from the computer.

Opening the Battery Bay



2. Slide the battery (with the logo facing up) into the battery bay. If the computer is on, it automatically detects the battery.

Inserting a Battery



3. Push the battery bay cover up until it clicks into place.

Your computer can enter Hibernate mode while using battery power, but some software programs and attached devices prevent the system from entering Hibernate mode at all. If you are using a program that prevents the system from entering Hibernate mode, save your data frequently. Also, see To activate Hibernate mode for information on how you can manually activate Hibernate mode.

Removing a battery

If you are not using the computer for an extended period of time, remove the battery from the computer to avoid damaging the battery. You can remove the battery when the computer is on or off.

If the computer is on, connect the AC adapter and exit a power saving mode before you remove the battery.

To remove a battery

1. Push the battery bay cover down to open it.
2. Pull the battery out of the battery bay.
3. Push in and lift up the battery bay cover until it clicks into place.

Removing a Battery

Locating battery information

Displaying the battery status provides useful information, such as remaining battery life.

To view battery information

1. Click **Start** on the Windows® taskbar, and click **Control Panel**.
2. Click **Performance and Maintenance**, and click **Power Options**. The **Power Options Properties** window appears.
3. Select the **Power Meter** tab. The total remaining battery charge is listed as a percentage.

You may also use the power icon on the Windows® taskbar to quickly view battery information. See To display the power icon on the taskbar for instructions on how to set up this shortcut.

To display the power icon on the taskbar

1. Click **Start** on the Windows® taskbar, and click **Control Panel**.
2. Click **Performance and Maintenance**, and click **Power Options**. The **Power Options Properties** window appears.
3. Select the **Advanced** tab, and then select **Always show icon on the taskbar** in the **Options** box. The power icon appears on the taskbar. See the power icon descriptions below for more information.

You can rollover the power icon to view the remaining battery charge, and you can double-click the power icon to open the Power Meter window, which also displays the remaining battery charge.

Power icon	Power status
	Computer is using AC power.
	Computer is using AC power and charging the battery.
	Battery is charging.
	Battery is fully charged.
	Battery is discharging.
	No battery is inserted in the computer.

Charging a battery

You will need to charge the battery if battery power drops below 10 percent or you have not used the battery for a long time. The lithium-ion battery supplied with your computer may be recharged at any time, whether you wait until the battery is completely or partially discharged. Charging a partially discharged battery does not affect battery life. If you charge the battery and find that battery power is still low, the battery may be reaching the end of its life, and you may need to replace it.

The battery supplied with your computer is not charged at the time of purchase.

To charge a battery

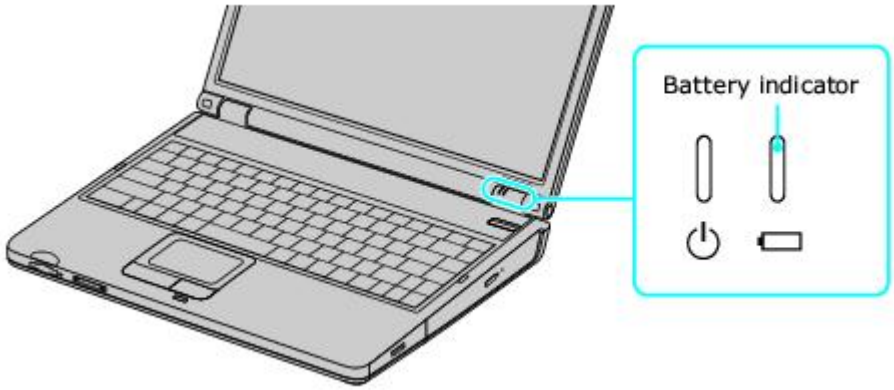
You can charge the battery when the computer is on or off. However, the battery will charge faster when the computer is off. Charging the battery takes several hours. See your VAIO® Computer Specifications for the approximate time needed to charge your battery.

Charge the battery at temperatures between 50°F and 80°F (10°C to 30°C). Lower temperatures require more time to charge.

1. Insert the battery into the battery bay.
2. Connect the AC adapter to the computer. The computer automatically charges the battery as long as the computer is using AC power.

The battery indicator blinks while the battery charges. The battery indicator stops blinking when the battery is fully charged.

Battery Indicator



Battery indicator status	Description
On	The computer is using battery power.
Single blink	The battery is running out of power.
Double blink	The battery is charging.
Off	The computer is using AC power.

Notes on batteries

- Never leave the battery in temperatures above 140°F (60°C), such as under direct sunlight or in a car parked in the sun.
- While the battery is in use or being discharged, the battery heats up. This is normal and is not cause for concern.
- Keep the battery away from all sources of heat.
- Keep the battery dry.
- Do not open or disassemble the battery.
- Do not expose the battery to any mechanical shock.
- Battery life is shorter in a cold environment because of decreased battery efficiency at low temperatures.

Frequently asked questions

How do I know when the battery is charged?

To determine the remaining battery charge, see Locating battery information.

When is the computer using AC power?

When the computer is directly connected to the AC adapter, it uses AC power, even if a battery is installed.

When should I recharge the battery?

- When the battery level falls below 10 percent.
- When both the battery and power indicators blink.
- When you have not used the battery for a long time.

When should I replace the battery?

If, after charging the battery, the battery power is still low, the battery may be reaching the end of its life and should be replaced.

Should I be concerned that the installed battery is warm?

No, it is normal for the battery to be warm when it is powering the computer.

Conserving Battery Power

You may use the power saving modes and power schemes to conserve battery power. Conserving battery power may significantly extend your computing time, depending on how you use your computer.

Using power saving modes

In addition to the normal operating mode, which allows you to turn off specific devices to conserve power, your computer has two distinct power saving modes: Standby and Hibernate. Use the Standby and Hibernate power saving modes to override a profile setting or initiate an immediate action.

- **Standby** — Saves the state of the system and peripheral devices in memory (RAM). The system remains on, and the computer screen (LCD) is off.
- **Hibernate** — Saves the state of the system and peripheral devices to the hard disk. Hibernate mode consumes the lowest level of power. Your computer enters Hibernate mode when the remaining battery charge drops below 8 percent, regardless of the setting you select.

✍ Since some software programs and peripheral devices prevent the system from entering Hibernate mode, save your data frequently to avoid data loss.

To activate Standby mode

1. Click **Start** on the Windows® taskbar, and select **Turn Off Computer**.
2. Click **Stand By** when the **Turn off computer** window appears. The power indicator blinks in this mode.
3. Press any key to return to normal mode.

To activate Hibernate mode

1. Press the **Fn+F12** keys, or press the power button and release it immediately. Do not move the computer until the power indicator turns off.
2. Press the power button to return to normal mode.

✍ If the computer does not activate Hibernate mode, see To use VAIO Power Management for more information.

Using power schemes

You can use the preset power schemes or you can customize the power profiles to conserve power. By using the power schemes, you control the power supplied to different components, such as the computer screen (LCD) and the hard disk drive, in your computer. You also control when the computer activates a power saving mode (Standby or Hibernate).

To set your battery alarm

You can change your computer settings to notify you when the battery power reaches a certain level.

1. Click **Start** on the Windows® taskbar, and click **Control Panel**.
2. Click **Performance and Maintenance**, and click **Power Options**. The **Power Options Properties** window appears.
3. Select the **Alarms** tab, and then select the type of alarm you want the computer to activate: a low or a critical battery alarm.
4. Drag the slider to the battery level at which you want the computer to activate the alarm. The **Low battery alarm** is set to 10 percent, and the **Critical battery alarm** is set to 8 percent by default.

✍ To further customize your alarm settings, click **Alarm Action**. You can select the type of alarm you want the computer to activate and how you want the computer to respond to the alarm in this window.

To select a power scheme

1. Click **Start** on the Windows® taskbar, and click **Control Panel**.
2. Click **Performance and Maintenance**, and click **Power Options**. The **Power Options Properties** window appears with the **Power Schemes** tab selected.
3. Select a power scheme from the drop-down menu in the **Power schemes** box. Each power scheme is preset to utilize your power supply efficiently, according to your computing functions. Select the power scheme that best explains how you want to use your computer.
4. Click **Apply**. The computer detects your changes.

To create a power scheme

1. Click **Start** on the Windows® taskbar, and click **Control Panel**.
2. Click **Performance and Maintenance**, and click **Power Options**. The **Power Options Properties** window appears with the **Power Schemes** tab selected.
3. Select your settings from the drop-down menus in the **Settings for...** box, and click **Save As** in the **Power schemes** box. The **Save Scheme** window appears.
4. Type a name for your customized power scheme, and click **OK**. The power scheme you created appears in the **Power schemes** box.

✍ If you want to delete a power scheme, select the power scheme, and click **Delete**. When the **Delete Scheme** window appears, click **Yes**.

To customize your power properties

1. Click **Start** on the Windows® taskbar, and click **Control Panel**.
2. Click **Performance and Maintenance**, and click **Power Options**. The **Power Options Properties** window appears.

   ✍ If you want to access the power scheme information quickly from the Windows® taskbar, see To display the power icon on the taskbar for more information.
3. Select the **Advanced** tab, and select your changes from the drop-down menus in the **Power buttons** box. See Using power saving modes for information on how Standby and Hibernate modes affect power consumption.

4. Click **Apply**. The computer detects your changes.

To activate Hibernate mode, you may first need to enable it. See Using power saving modes for more information.

To use VAIO Power Management

VAIO Power Management is a software program that enables you to further adjust the power settings on your computer. Once you have selected a power scheme under the Power Schemes tab, you can modify it in the VAIO Power Management tab to enhance your computer's operations.

1. Click **Start** on the Windows® taskbar, and click **Control Panel**.
2. Click **Performance and Maintenance**, and click **Power Options**. The **Power Options Properties** window appears.
3. Select the VAIO Power Management tab, and specify the options you want to adjust.
4. Click **Apply**.

Frequently asked questions

Can my computer enter Hibernate mode while using battery power?

Your computer can enter Hibernate mode while using battery power, but some software programs and peripheral devices prevent the system from entering Hibernate mode at all. If you are using a program that prevents the system from entering Hibernate mode, save your data frequently. Also, see To activate Hibernate mode for information on how you can manually activate Hibernate mode.

Internet and Network Connections

- Internet Connections
- Network Connections
- Connecting Another VAIO Computer

Internet Connections

This section describes the basic steps for setting up your dial-up or Ethernet connection to the Internet. The New Connection Wizard guides you through the process of connecting to the Internet and choosing an Internet service provider (ISP) or setting up an existing account. When you connect to the Internet, you can register your VAIO® computer, use online services, and gain access to Sony Computing Support.

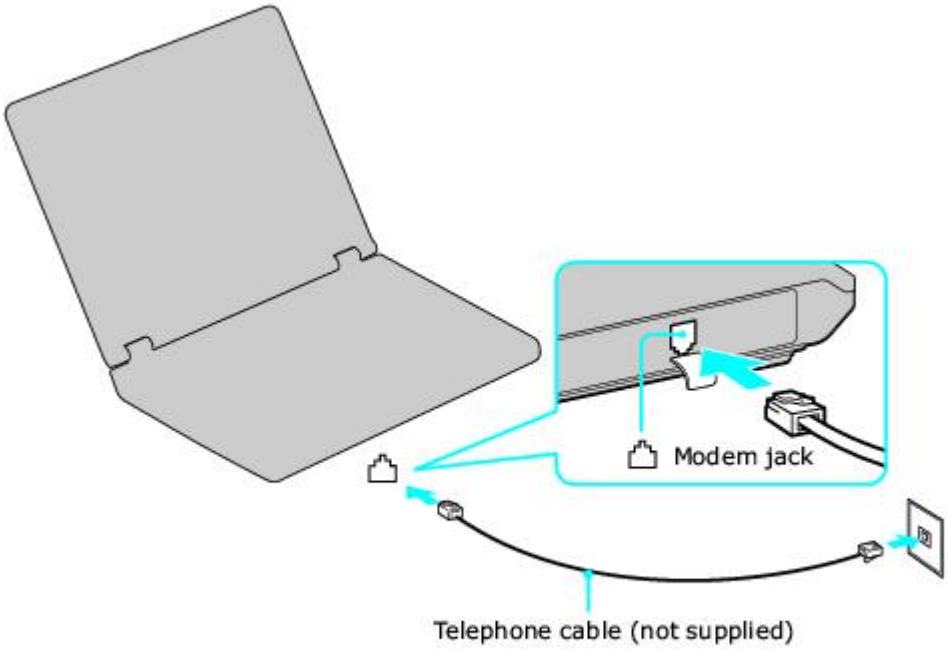
Setting up a dial-up Internet connection

Before you can connect to the Internet, you need to connect your computer to a telephone line via a telephone cable (not supplied). Once you set up your telephone cable, you're ready to connect to the Internet.

To connect a telephone cable

1. Locate the Modem jack on your computer. For location information, see Locating Controls and Ports.
2. Plug one end of the telephone cable into the Modem jack. Make sure it clicks into place.
3. Plug the other end into the wall jack.

Connecting a Telephone Cable



This illustration portrays a prototypical computer.
Actual port locations differ between computer models.

Your computer does not work with party lines, cannot be connected to a coin-operated telephone, and may not work with multiple telephone lines or a private branch exchange (PBX). Some of these connections may result in excess electrical current and could cause a malfunction in the internal modem.

If you connect a telephone cable coming through a splitter, the modem or connected device may not work properly.

To set up a dial-up connection to the Internet

1. Connect your computer to a telephone line. See To connect a telephone cable for more information.
2. Click **Start**, point to **All Programs**, **Accessories**, **Communications**, and click **New Connection Wizard**. The **New Connection Wizard** appears.

New Connection Wizard

New Connection Wizard
Welcome to the New Connection Wizard
This wizard helps you:
Connect to the Internet.
Connect to a private network, such as your workplace network.
Set up a home or small office network.
To continue, click Next.
< Back
Next >
Cancel

3. Click **Next**. If the **Location Information** dialog box appears, follow the on-screen instructions.
4. If it is not already selected, click to select **Connect to the Internet**, and click **Next**.
5. Follow the on-screen instructions.

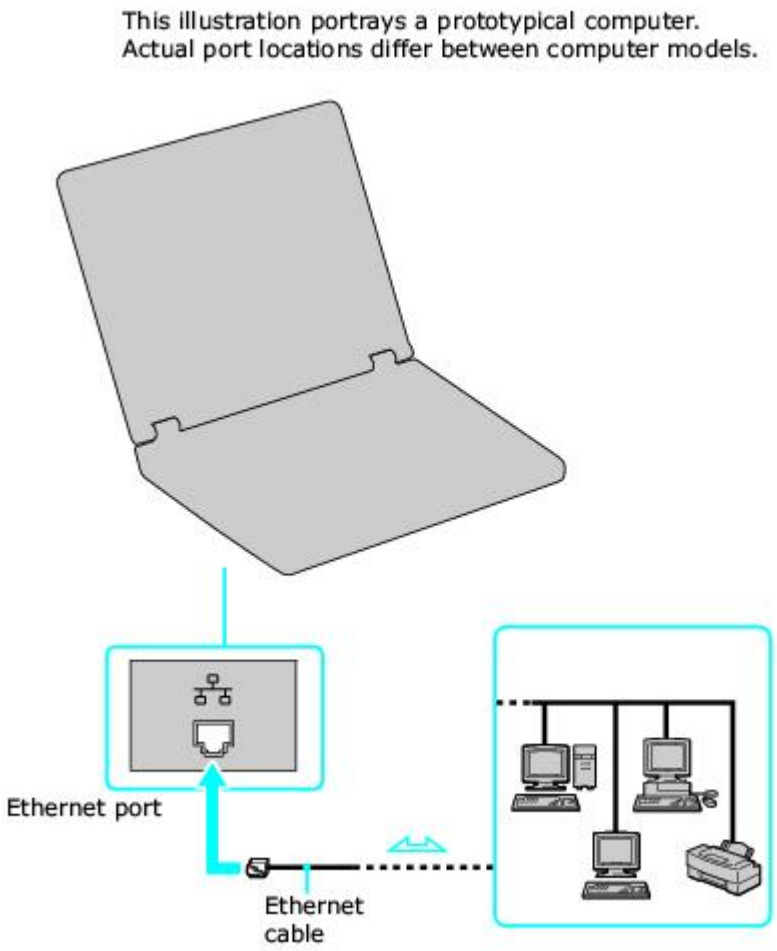
Setting up an Ethernet Internet connection

Your computer accommodates both 10BASE-T and 100BASE-TX Ethernet connections, with data transfer speeds of between 10 and 100 Mbps.

To connect an Ethernet cable

1. Locate the Ethernet port on your computer. For location information, see Locating Controls and Ports.

Connecting an Ethernet Cable


This illustration portrays a prototypical computer.
Actual port locations differ between computer models.
Ethernet port
Ethernet cable

2. Plug one end of the Ethernet cable into your computer's Ethernet port and the other into the network connection.

To set up an Ethernet connection to the Internet

1. Connect your computer to a network connection.

2. Click **Start**, point to **All Programs**, **Accessories**, **Communications**, and click **New Connection Wizard**. The **New Connection Wizard** appears.

New Connection Wizard

New Connection Wizard
Welcome to the New Connection Wizard
This wizard helps you:
Connect to the Internet.
Connect to a private network, such as your workplace network.
Set up a home or small office network.
To continue, click Next.
< Back
Next >
Cancel

3. Click **Next**. If the **Location Information** dialog box appears, follow the on-screen instructions.
4. If it is not already selected, click to select **Connect to the Internet**, and click **Next**.
5. Follow the on-screen instructions.

Customizing your Internet connection

The Internet Properties dialog box enables you to change the way you view the Internet. You can change your home page, fonts, language, and colors. You can also regulate content and set browsing preferences.

To open the Internet Properties dialog box

1. Click **Start** on the Windows® taskbar, and then **Control Panel**.
2. Click **Network and Internet Connections**, and then **Internet Options**. The **Internet Properties** dialog box appears.
3. Click the tabs to view options.
4. Make changes, and click **Apply** to activate your changes.
5. Click **OK**.

Frequently asked questions

Why doesn't my modem work?

- Make sure the telephone cable is securely plugged into the Modem jack on the computer and the wall jack. See To connect a telephone cable for more information.
- Make sure the telephone cable is working. Plug the cable into an ordinary telephone and listen for a dial tone.
- Make sure the telephone number the program is dialing is correct.
- Make sure the software you are using is compatible with the computer's modem. (All preinstalled Sony programs are compatible.)

Why is my modem connection slow?

Your computer is equipped with a V.90 compatible modem. Many factors may influence modem connection speed, including telephone line noise or compatibility with telephone equipment, such as fax machines or other modems. If you think your modem is not connecting properly to other PC-based modems, fax machines, or your Internet Service Provider (ISP), follow these steps:

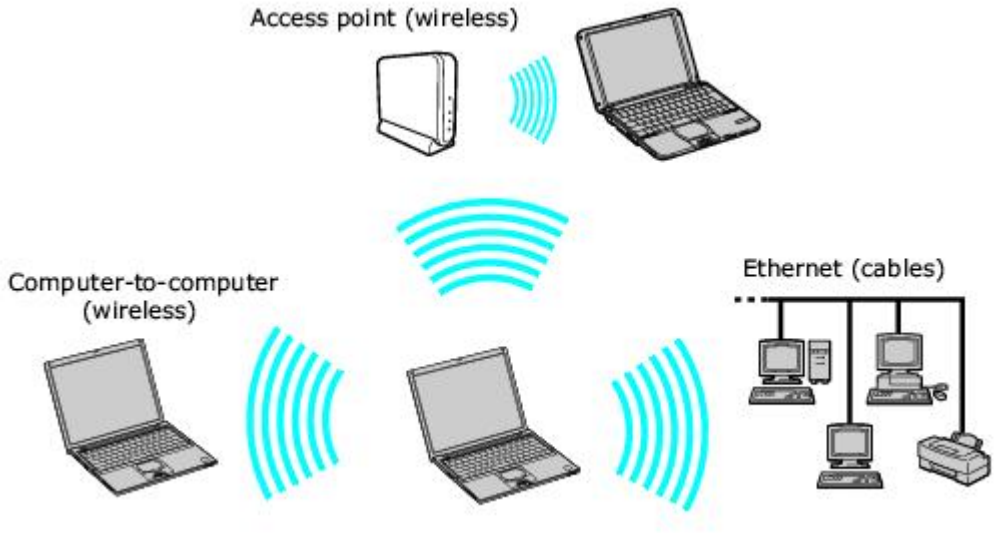
- Ask your telephone company to verify your telephone line is free of any line noise.
- If your problem is fax-related, make sure there are no problems with the fax machine you are calling and that it is compatible with fax modems.
- If you are having a problem connecting with your ISP, make sure the ISP is not experiencing technical problems.
- If you have a second telephone cable available, try connecting the modem to that cable.

Network Connections

With a Sony computer, you can easily set up or connect to a variety of networks. The New Connection Wizard and Network Setup Wizard make it easy to gain access to remote and local area networks (LANs) using wireless, Ethernet, or dial-up connections.

For more information about networking, click **Start**, **Help and Support**, and then **Networking and the Web**.

*Types of Networks**



* The computers represented in this graphic may not be identical to the model you purchased.

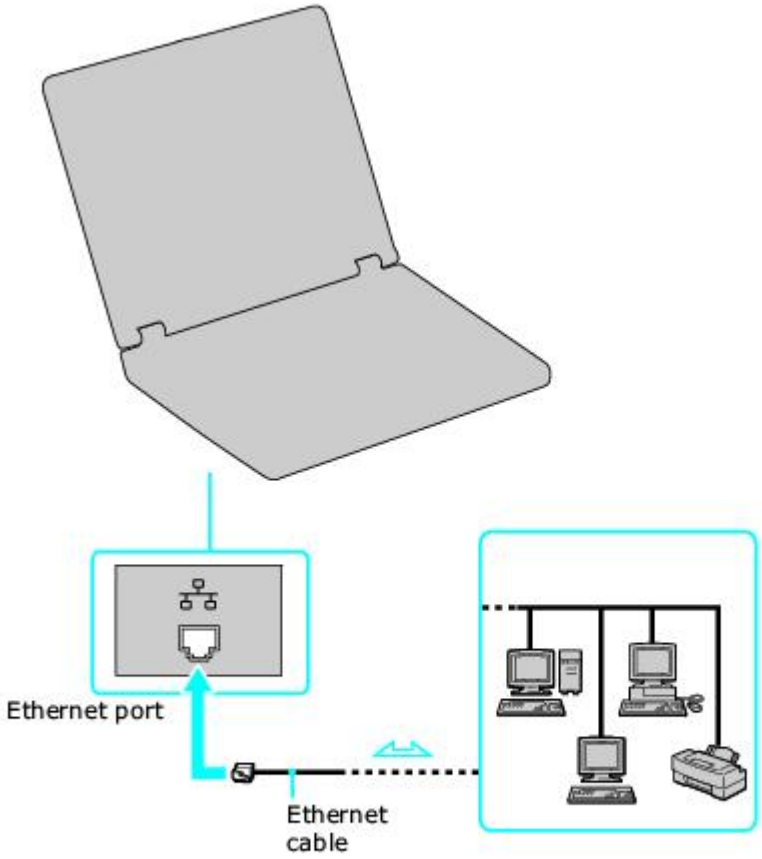
Using Ethernet and dial-up connections

For setting up local area networks (LANs), Ethernet is a widely installed technology. Your computer accommodates both 10BASE-T and 100BASE-TX Ethernet connections, with data transfer speeds of between 10 and 100 Mbps.

To connect to a local area network using a telephone or Ethernet cable

1. Connect an Ethernet or telephone cable to your computer. See To connect an Ethernet cable and Setting up a dial-up Internet connection for more information.

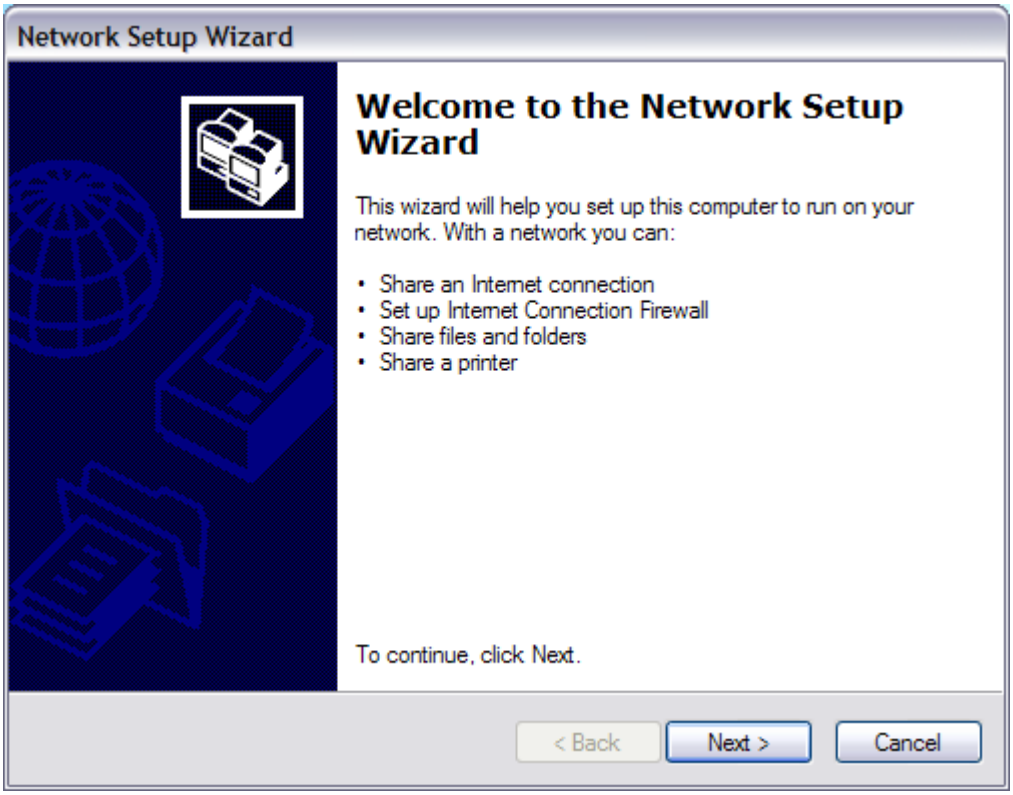
Connecting an Ethernet Cable



This illustration portrays a prototypical computer.
Actual port locations differ between computer models.

2. Click **Start**, point to **All Programs**, **Accessories**, **Communications**, and click **Network Setup Wizard**. The **Network Setup Wizard** appears.

Network Setup Wizard


Network Setup Wizard
Welcome to the Network Setup Wizard
This wizard will help you set up this computer to run on your network. With a network you can:
• Share an Internet connection
• Set up Internet Connection Firewall
• Share files and folders
• Share a printer
To continue, click Next.
< Back
Next >
Cancel

3. Click **Next**. If you are prompted to the **Local Information** dialog box, follow the on-screen instructions.

Only connect 10BASE-T and 100BASE-TX cables to the Ethernet port . Do not connect any other type of network cable or any telephone cable. Connecting cables other than those listed above may result in an electric current overload and could cause a malfunction, excessive heat, or fire in the port. To connect the unit to the network, see Using Ethernet and dial-up connections or contact your network administrator.

You can connect to an Ethernet network from a remote location and use data, programs, and network resources. See Microsoft® Windows® Help by clicking **Help and Support** from the **Start** menu, and then clicking **Networking and the Web** in the left panel.

To connect to a remote network using a telephone or Ethernet cable

1. Connect an Ethernet or telephone cable to your computer. See To connect an Ethernet cable and Setting up a dial-up Internet connection for more information.
2. From the **Start** menu, point to **All Programs**, **Accessories**, **Communications**, and click **New Connection Wizard**.
3. Click **Next**. If you are prompted to the **Local Information** dialog box, follow the on-screen instructions.
4. Click **Connect to the network at my workplace**, and then click **Next**.
5. Follow the on-screen instructions.
6. Ask your network administrator for the detailed settings and devices needed to connect to an existing network.

Using wireless network connections (on selected models only)

A wireless local area network (LAN) is a network in which you can connect to a LAN through a wireless (radio) connection. You can opt to purchase a Sony Wireless LAN Access Point to set up a LAN.

The wireless LAN access point is designed for building a wireless LAN environment. Because a wireless LAN configuration requires no wiring, you can operate multiple computers more freely than ever before.

Your computer is equipped with a built-in mini PCI card that allows for wireless connections.

For more information on Sony Wireless LAN, go to http://www.sonystyle.com/vaio.

There are two types of wireless connections:

- An infrastructure network is one that extends an existing wired local network to wireless devices by providing an access point. The access point bridges the wireless and wired LAN and acts as a central controller for the wireless LAN. The access point coordinates transmission and reception from multiple wireless devices within a specific range.
- A computer-to-computer (ad-hoc) network is one in which a local network is created only by the wireless devices themselves, with no other central controller or access point. Each device communicates directly with other devices in the network. You can set up an ad-hoc network easily at home.

To connect to a wireless network (Option 1)

Use the VAIO Wireless Utility to guide you through the set up process and provide you with more detailed information about wireless connections.

1. Make sure an access point is set up. See the instructions that accompanied the access point for more information.
2. Move the Wireless switch to **ON** (for location information, see "Locating Controls and Ports.").
3. If your computer comes with Bluetooth® technology[1], select the **Enable Wireless LAN** option on the **Wireless Device Switch** window, and then click **OK**.

   You may also double-click the **Wireless LAN-ON** or **Bluetooth-ON** icon on the Taskbar Notification area to open the **Wireless Device Switch** window.

Wireless Device Switch

Wireless Device Switch
Wireless LAN
Enable 2.4 GHz Wireless LAN
Bluetooth Device
Enable Bluetooth Device
System Information
The frequency band of 2.4 GHz Wireless LAN and 5 GHz Wireless LAN are not compatible, please switch systems to same frequency in order to connect successfully
Show this dialog when the wireless devices are activated
OK
Cancel
Apply
Help

4. Click **Start**, **All Programs,** and **VAIO Wireless Utility**. The **VAIO Wireless Utility** appears.

VAIO Wireless Utility

VAIO
VAIO Wireless Utility
VAIO Assistant
Be taken step-by-step through the connection process.
Diagnostics
Check for issues preventing you from connecting to your wireless network.
Wireless Guide
View instructions for setting up a wireless connection.
Exit

5. Follow the steps provided by the utility.

To connect to a wireless network (Option 2)

You may manually set up a wireless connection without the assistance of the VAIO Wireless Utility.

1. Make sure an access point is set up. See the instructions that accompanied the access point for more information.

2. Move the Wireless switch to **ON** (for location information, see "Locating Controls and Ports.").

3. If your computer comes with Bluetooth® technology[2], select the **Enable Wireless LAN** option on the **Wireless Device Switch** window, and then click **OK**.

You may also double-click the **Wireless LAN-ON** or **Bluetooth-ON** icon on the Taskbar Notification area to open the **Wireless Device Switch** window.

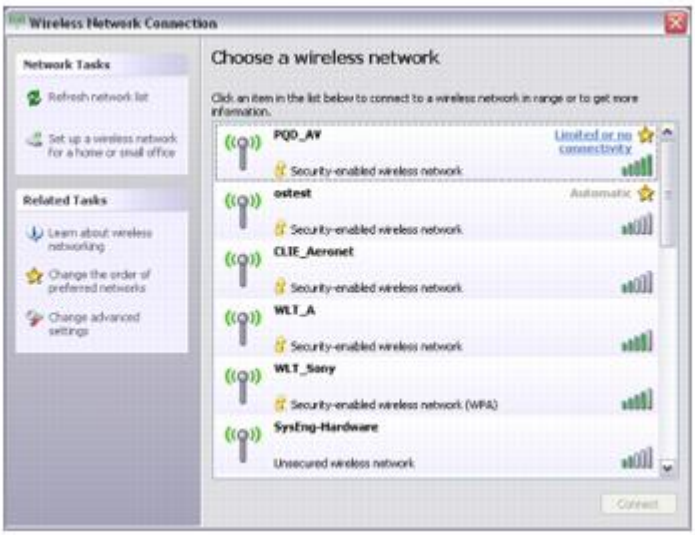
Wireless Device Switch

Wireless Device Switch
Wireless LAN
Enable 2.4 GHz Wireless LAN
Bluetooth Device
Enable Bluetooth Device
System Information
The frequency band of 2.4 GHz Wireless LAN and 5 GHz Wireless LAN are not compatible, please switch systems to same frequency in order to connect successfully
Show this dialog when the wireless devices are activated
OK
Cancel
Apply
Help

4. Click **Start**, **Control Panel**, **Network and Internet Connections**, and then click **Network Connections**. The **Network Connections** window appears.

5. In the right panel under **LAN or High-Speed Internet**, click **Wireless Network Connection**. The Wireless Network Connection window appears.

Wireless Network Connection



6. Select the name of the wireless network to which you want to connect. If you do not see the network in the list, refresh the screen. For more information, see If the network does not appear in the list of available wireless networks.

7. When your computer locates the network, type the network key in the **Network key** box. (If necessary, ask the administrator for the key.)

8. Retype the network key in the **Confirm network key** box.

9. Click **Connect**.

Wireless Network Connection

If the network does not appear in the list of available wireless networks

1. On the Wireless Network Connection window, click **Change advanced settings** under **Related Tasks**. The **Wireless Network Connection Properties** dialog box appears.

2. Select the **Wireless Networks** tab, if it is not already selected.

Wireless Network Connection Properties

3. Click **Add** in the **Preferred networks** box. The **Wireless network properties** dialog box appears.

Wireless Network Properties

4. Type the name of the network (access point) you want to connect to in the **Network name (SSID)** box.

   The following steps are for networks that require a network key. If you do not know the network key or are not sure a network key is required, see the network administrator or the guide that accompanied your access point for more information.

5. If available, make sure the **Data encryption (WEP enabled)** check box is selected.
   If the Data encryption (WEP enabled) check box is not available:

   1. Select an authentication method from the Network Authentication menu.

   2. Select a data encryption method from the Data Encryption menu.

6. Click to cancel the **The key is provided for me automatically** check box.

7. Type the WEP network key in the **Network key** box if it is required by the selected authentication method.

8. Retype the network key in the **Confirm network key** box.

9. Click **OK**. The network name appears in the **Preferred networks** list box.

To set up a computer-to-computer (ad-hoc) network

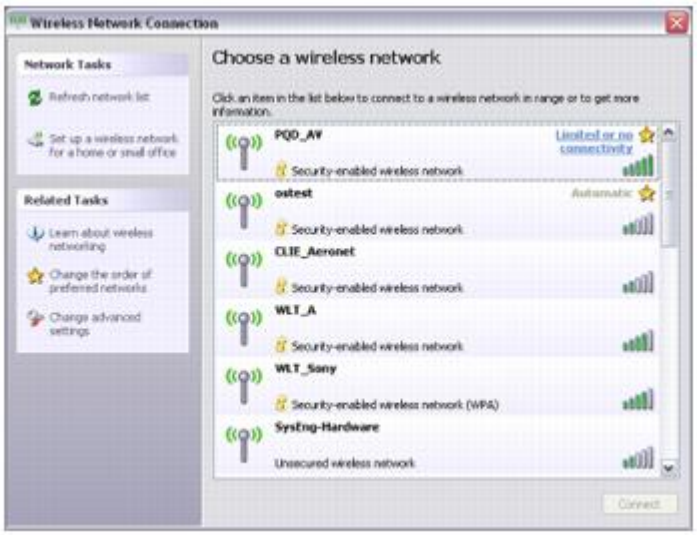
The computer-to-computer (ad-hoc) network is only supported by the IEEE 802.11b wireless standard.

1. Move the Wireless LAN switch to **ON**. For location information see "Locating Controls and Ports."

2. Click **Start**, **Control Panel**, **Network and Internet Connections**, and then click **Network Connections**. The **Network Connections** window appears.

3. In the right panel under **LAN or High-Speed Internet**, click **Wireless Network Connection**. The Wireless Network Connection window appears.

Wireless Network Connection



4. In the **Related Tasks** menu, click **Change the order of the preferred networks**. The **Wireless Network Connection Properties** dialog box appears.

Wireless Network Connection Properties

5. Click **Add**. The **Wireless network properties** dialog box appears.

Wireless Network Properties

6. Type the name of the network you want to connect to in the **Network name (SSID)** box.

7. If available, make sure the **Data encryption (WEP enabled)** check box is selected.
   If the Data encryption (WEP enabled) check box is not available:

   1. Select an authentication method from the Network Authentication menu.

   2. Select a data encryption method from the Data Encryption menu.

8. Click to cancel the **The key is provided for me automatically** check box.

9. Type the WEP network key in the **Network key** box if it is required by the selected authentication method.

10. Retype the network key in the **Confirm network key** box.

11. Click to select **This is a computer-to-computer (ad hoc) network; wireless access points are not used**.

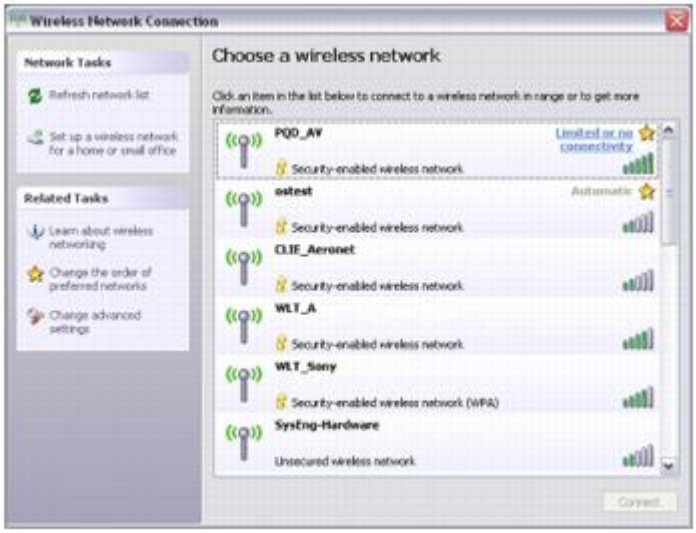
12. Click **OK**.

13. Click **OK** a second time on the **Wireless Network Connection Properties** window.

14. Repeat steps 1 to 4 on the other computer.

15. On the **Wireless Network Connection** window, select the computer-to-computer (ad-hoc) network from the list of available networks, and click **Connect**.

Wireless Network Connection



16. Type the network key in the **Network key** and the **Confirm network key** boxes, and press **Connect**.

Wireless Network Connection

If you enter the network key incorrectly, the computer will appear to connect to the host computer but will be unable to communicate with the host computer or any other computer on the network.

17. The Wireless Network Connection window updates to show the computer-to-computer (ad-hoc) network in which you are connected.

To disconnect from a wireless network

- For computers with built-in wireless LAN functionality, move the Wireless LAN switch to OFF.

Turning off the wireless LAN functionality while accessing remote documents, files, or resources may result in data loss.

To disconnect from a computer-to-computer (ad-hoc) network

1. Click **Start**, **Control Panel**, **Network and Internet Connections**, and then click **Network Connections**. The **Network Connections** window appears.
2. In the right panel under **LAN or High-Speed Internet**, click **Wireless Network Connection**. The Wireless Network Connection Status window appears.
3. Click **Properties**. The **Wireless Network Connection Properties** dialog box appears.
4. On the **Wireless Networks** tab, click **Advanced**. The **Advanced** dialog box appears.
5. Click to select **Any available network (access point preferred)**, and click **Close**.
6. Click **OK** to close the **Wireless Network Connection Properties** window, and click **Close** on the **Wireless Network Connection Status** window.
7. Move the Wireless LAN switch to **OFF**.

[1] Bluetooth technology is available on selected models only.

[2] Bluetooth technology is available on selected models only.

Checking your network connection status

Whether you have a wireless, Ethernet, or dial-up connection, you can check the status of that connection.

To check your network connection status

1. Click **Start** on the taskbar, and click **Control Panel**, **Network and Internet Connections**, and **Network Connections**. The **Network Connections** window appears.

2. Under **LAN or High-Speed Internet**, click the enabled network connection to open the connection status window.

Wireless Network Connection Status

Frequently asked questions

Why can't my computer connect to a wireless LAN access point?

- Connection availability is affected by distance and obstructions. You may need to move your computer away from obstructions or closer to any access point you may be using.
- Make sure the Wireless LAN switch on the computer is on.
- Make sure power to the access point is on.
- Make sure the access point is displayed in the Available networks window. For more information, see To connect to a wireless network (Option 1).
- Make sure the encryption key is correct.

Why can't I access the Internet?

- Check the access point settings. Refer to the instructions supplied with the access point.
- Make sure your computer and the access point are connected to one another.
- Move your computer away from obstructions or closer to any access point you may be using.
- Make sure your computer is properly configured for Internet access.

Why is the data transfer speed slow?

- The wireless LAN data transfer speed is affected by distance and obstructions between devices and access points. Other factors include device configurations, radio conditions, and software compatibility. To maximize the data transfer speed, move your computer away from obstructions or closer to any access point you may be using.
- If you are using a wireless LAN access point, the device may be temporarily overloaded depending on how many other devices are communicated via the access point.
- If your access point interferes with other access points, change the access point channel. See your access point instructions for more information.

Why is the communication speed interrupted or slowed down when MPEG2 data is transferred?

The typical effective data transfer rate via an access point when adhering to the IEEE 802.11b standard is 4-5 Mbps and IEEE802.11g standard is 10-20 Mbps. High-rate stream transfers with MPEG2 data may lower these rates.

How do I avoid data transfer interruptions?

- When your computer is connected to an access point, data transfer interruptions may occur when using large files or if the computer is in close proximity to microwaves and cordless telephones.
- Move the computer closer to the access point.
- Make sure the access point connection is intact. For more information, see Checking your network connection status.
- Change the access point channel. See your access point instructions for more information.

What are channels?

Wireless LAN communication occurs on divided frequency bands known as channels. Third-party wireless LAN access point channels may be preset to different channels from Sony devices.

If you are using a wireless LAN access point, refer to connectivity information contained in your access point instructions.

When I change the encryption key, the network connection stops. What do I do?

Two computers with built-in wireless LAN may loose a peer-to-peer network connection if the encryption key is changed. You can either change the encryption key back to the original profile or restart both computers.

Connecting Another VAIO Computer

The preinstalled Microsoft® Windows® XP operating system enables you to connect a compatible i.LINK®[1] cable (not supplied) between your VAIO® computer and another compatible computer.

[1] i.LINK is a trademark of Sony used to designate that a product contains an IEEE 1394 connection. The i.LINK connection may vary, depending on the software programs, operating system, and compatible i.LINK devices. All products with an i.LINK connector may not communicate with each other. Refer to the documentation that came with your compatible i.LINK device for information on operating conditions and proper connection. Before connecting compatible i.LINK PC peripherals to your system, such as a CD-RW or hard disk drive, confirm their operating system compatibility and required operating conditions.

Connecting VAIO computers

When you connect two VAIO computers, you can use one computer to edit, copy, or delete files on the other computer. You can also print from a printer attached to either computer.

To connect VAIO computers

1. Plug one end of the i.LINK cable into the i.LINK port on each computer.
2. Click **Start** on the Windows® taskbar, and click **Control Panel**.
3. Click **Network and Internet Connections**, and click **Set up or change your home or small office network**. The **Network Setup Wizard** appears.

Network Setup Wizard

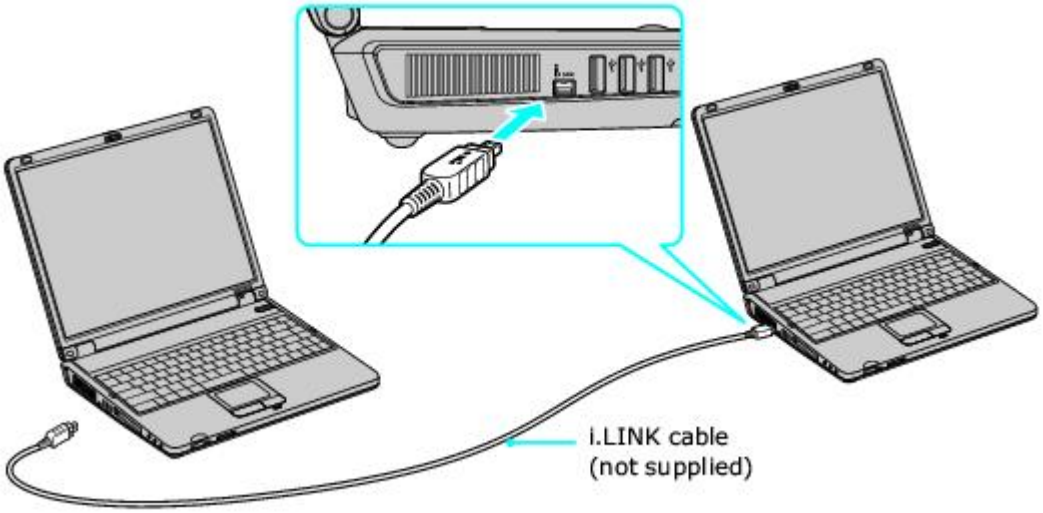
Network Setup Wizard
Welcome to the Network Setup Wizard
This wizard will help you set up this computer to run on your network. With a network you can:
• Share an Internet connection
• Set up Internet Connection Firewall
• Share files and folders
• Share a printer
To continue, click Next.
< Back
Next >
Cancel

4. Follow the on-screen **Network Setup Wizard** instructions.
5. When you are prompted, type in a unique computer name for each computer. You will use this unique name to differentiate the two computers once they are networked together.

   The Workgroup name should remain the same for the two networked computers.

6. When you finish the **Network Setup Wizard** on-screen instructions, click **Start** on the Windows® taskbar and click **My Computer**.
7. Click **My Network Places** in the **Other Places** menu. The **My Network Places** window appears.
8. Click **View workgroup computers** in the **Network Tasks** menu. Computers networked under the same workgroup name are displayed in this window.

Connecting Another Computer


i.LINK cable
(not supplied)

Disconnecting VAIO computers

You can disconnect two VAIO computers when the computers are on or off.

To disconnect VAIO computers when the computers are on

1. Close all open files that are shared with the connected computers.
2. Unplug the i.LINK cable from the i.LINK port on each computer.

To disconnect VAIO computer when the computers are off

- Unplug the i.LINK cable from the i.LINK port on each computer.

Frequently asked questions

Why can't I establish a connection between two VAIO computers?

- Your computer may not recognize an i.LINK[1] connection if the i.LINK cable is not plugged securely into the i.LINK ports. Disconnect the i.LINK cable and securely reconnect it to both computers. If neither computer responds after a few moments, restart both computers.

- If the computers do not recognize the i.LINK connection after resuming from a power saving mode (Standby or Hibernate), restart both computers. For more information, see Connecting VAIO computers.

[1] i.LINK is a trademark of Sony used only to designate that a product contains an IEEE 1394 connection. The i.LINK connection may vary, depending on the software applications, operating system, and compatible i.LINK devices. All products with an i.LINK connection may not communicate with each other. Refer to the documentation that came with your compatible i.LINK device for information on operating conditions and proper connection. Before connecting compatible i.LINK PC peripherals to your system, such as CD-RW or hard disk drive, confirm their operating system compatibility and required operating conditions.

CDs and DVDs

- Creating CDs / DVDs with Sony Software
- Inserting and Ejecting CDs or DVDs
- Copying and Playing CDs and DVDs
- Playing DVDs

Creating CDs / DVDs with Sony Software

Your computer plays and records CDs and DVDs, depending on the model you purchased. Check your specifications for the type of optical drive installed on your computer. Depending on the computer model and particular configuration you purchased, your computer may not include all of the software programs listed below.

Picture & Video DVDs

Click to DVD

Make picture or personal video DVDs. Use JPEG, BMP, of TIFF files for slide shows; import MPEG, AVI, or Microsoft® DVR-MS files for video, or capture footage from an i.LINK / IEEE 1394 camera or analog source.

Music CDs

SonicStage

Make music CDs from MP3, WMA, WAV, and OpenMG files; create ATRAC CDs for your Sony ATRAC CD Walkman; or backup your existing collection of dicsc.

SonicStage Mastering Studio

Make music CDs from your collection of vinyl records or cassette tapes.

Sonic RecordNow!

Make music CDs from MP3, WMA, WAV, and CDA files, or backup your existing collection of discs.

Data Backup

Sonic RecordNow!

Make custom data CDs or DVDs with drag-and-drop ease, or backup your existing collection of discs.

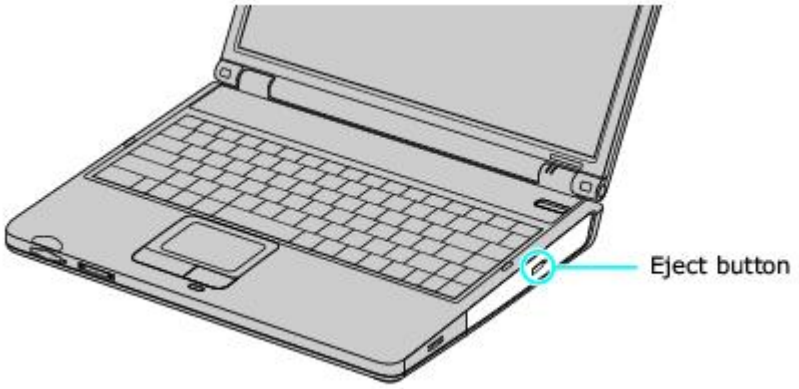
Inserting and Ejecting CDs or DVDs

Avoid using adhesive labels to identify your CDs or DVDs. Adhesive labels may damage the optical drive if they come off while the disc is in the drive.

To insert a disc

1. Turn on the computer or exit a power saving mode (Standby or Hibernate) if one is active. For more information, see Using power saving modes.
2. Press the Eject button on the optical drive cover to open the drive tray. The drive tray slides out.

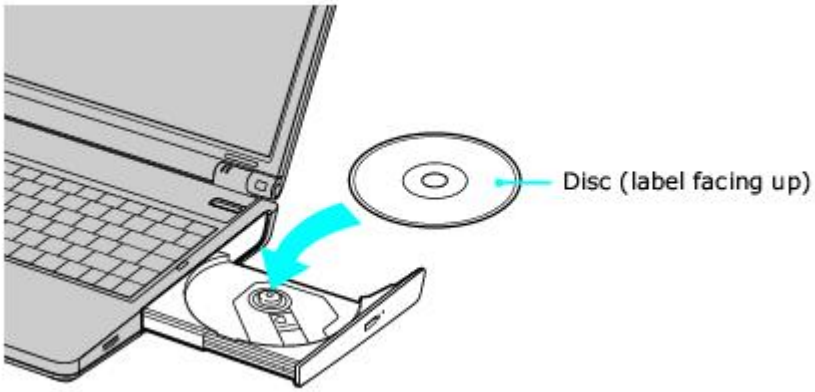
Ejecting the Drive Tray



3. Place a disc on the drive tray with the label facing up.

You can play some DVDs on both sides. Insert this type of DVD with the side you want to play facing up.

Inserting a Disc



4. Press the disc onto the hub until the disc clicks securely into place.

If you do not seat the disc firmly over the hub, the disc may come loose while it is in the drive. A loose disc may damage the optical drive and make opening the drive tray difficult.

5. Push the drive tray gently to close it. The Busy indicator on the drive cover blinks while your computer is reading data from the drive.

To eject a disc

1. Turn on the computer or exit a power saving mode (Standby or Hibernate) if one is active. For more information, see Using power saving modes.
2. Close all programs that access the optical drive, and wait for the Busy indicator on the drive cover to turn off.
3. Press the Eject button on the drive cover to open the drive tray. The drive tray slides out.

If the Eject button does not work, turn off the computer and insert a thin, straight object (such as a paper clip) into the manual eject hole next to the Eject button.

4. Lift the disc from the drive.

5. Push the drive tray gently to close it.

Copying and Playing CDs and DVDs

Your computer plays and records CDs and DVDs, depending on the model you purchased. Check your specifications for the type of optical drive installed on your computer and use the table below to see which types of media your optical drive supports.

Optical Drive	Media (disc) Support
CD-ROM	Reads CD, CD-R, and CD-RW
CD-RW	Reads CD, CD-R, and CD-RW Writes to CD-R and CD-RW
CD-RW/DVD-ROM	Reads CD, CD-R, and CD-RW Writes to CD-R and CD-RW Reads DVD and most DVD-R and DVD-RW
DVD-RW	Reads CD, CD-R, and CD-RW Writes to CD-R and CD-RW Reads DVD, DVD-R, and DVD-RW; DVD+R and DVD+RW (in most cases) Writes to DVD-R and DVD-RW
DVD±RW	Reads CD, CD-R, and CD-RW Writes to CD-R and CD-RW Reads DVD, DVD-R, DVD-RW, DVD+R and DVD+RW Writes to DVD-R, DVD-RW, DVD+R, and DVD+RW

If you plan to use an external optical drive, connect the drive before you launch any preinstalled CD/DVD program.

Playing CDs

Before you play an audio CD, you may need to enable your computer's audio feature.

To enable the audio feature

1. Click **Start** on the Windows® taskbar, and then click **Control Panel**, **Performance and Maintenance**, and **System**. The **System Properties** dialog box appears.

   As a shortcut, you can press **Fn** + the **Windows** key + **Insert** to open the **System Properties** dialog box.

2. Select the **Hardware** tab, and in the **Device Manager** box, click **Device Manager**. A window with a listing of the computer's hardware devices appears.
3. Double-click the name of the optical drive to open the submenu.
4. Double-click the listed drive name, and select the **Properties** tab.
5. Click to select the **Enable digital CD audio for this CD-ROM device** check box if it is not already selected.
6. Click **OK**.

To adjust the volume for playing CDs and DVDs

Some programs have built-in volume controls, which you can adjust. If there are no volume controls, then adjust the volume of your computer's built-in speakers by doing one of the following:

- Using the Function keys. An on-screen display may appear, notifying you when a change occurs.
  - To increase volume, press the **Fn** key while tapping the **F4** key.
  - To decrease volume, press the **Fn** key while tapping the **F3** key.
- Using the Volume icon.
  - Double click the **Volume** icon on the Windows® taskbar. The **Volume Control** dialog box appears.
  - In the **Volume Control** and **Wave** columns, move the **Volume** sliders up to increase volume and down to decrease volume.

To play an audio CD

1. Insert the disc into the optical drive. See To insert a disc for more information.
2. If nothing appears on the desktop once you insert an audio CD disc, then click **Start**, point to **All Programs**, and click to open a CD program, such as SonicStage.
   If the **Audio CD** window appears, click to select an option.

Audio CD

CD Drive (F:)
Windows can perform the same action each time you insert a disk or connect a device with this kind of file:
Blank CD
What do you want Windows to do?
Open writable CD folder using Windows Explorer
Take no action
Always do the selected action.
OK
Cancel

Copying files to a CD-RW or CD-R

Before you write data to a CD-RW or CD-R disc, read the following notes to avoid a computer malfunction and ensure the best writing results:

- Deactivate the screen saver and exit anti-virus software.
- Deactivate memory-resident disc utilities to avoid data loss.
- Disable the FindFast program if it is installed on your computer. Click **Start** and point to **All Programs** to see a list of programs on your computer.
- Connect and use the AC adapter to power your computer or make sure your battery is at least 50 percent charged. See Powering Your Computer for more information.

To copy files to a CD-RW or CD-R

1. Insert a blank CD-R or CD-RWdisc into the optical drive. For more information, see Creating CDs / DVDs with Sony Software.
   If the **CD Drive** window appears, click **Take no action**.

CD Drive

CD Drive (E:)
Windows can perform the same action each time you insert a disk or connect a device with this kind of file:
Blank CD
What do you want Windows to do?
Open writable CD folder using Windows Explorer
Select media to Copy to CD using Windows Media Player
Burn CD using RealOne Player
Take no action
Always do the selected action.
OK
Cancel

2. Open **My Computer** window by pressing the **Windows** key and the **E** key simultaneously.
3. In the **Folders** panel on the left, locate the file(s) or folder(s) you want to copy and either:
4. Right-click the file(s) or folder(s), point to **Send To**, and click the optical drive[1] name.
   A taskbar pop-up message appears, stating your files are waiting to be written to a CD.
5. Close on the pop-up message.
   The **CD Drive** window appears with the file(s) or folder(s) you want to copy listed under **Files Ready to Be Written to the CD**.
6. In the **CD Writing Tasks** box, click **Write these files to CD**.
   The **CD Writing Wizard** appears.
7. Follow the instructions on the **CD Writing Wizard**.

CD Writing Wizard

CD Writing Wizard
Welcome to the CD Writing Wizard
This wizard helps you write, or record, your files to a CD recording drive.
Type the name you want to give to this CD, or just click Next to use the name below.
CD name:
New files being written to the CD will replace any files already on the CD if they have the same name.
Close the wizard after the files have been written
< Back
Next >
Cancel

Do not strike or shake the computer while writing data to a disc.

[1] The read/write drive letter designation may vary, depending on your system's hardware configuration.

Playing DVDs

You can play DVDs in your computer's optical drive and view the video on a TV or the computer screen. The type of optical drive installed in or connected to your computer varies, depending on the model you purchased.

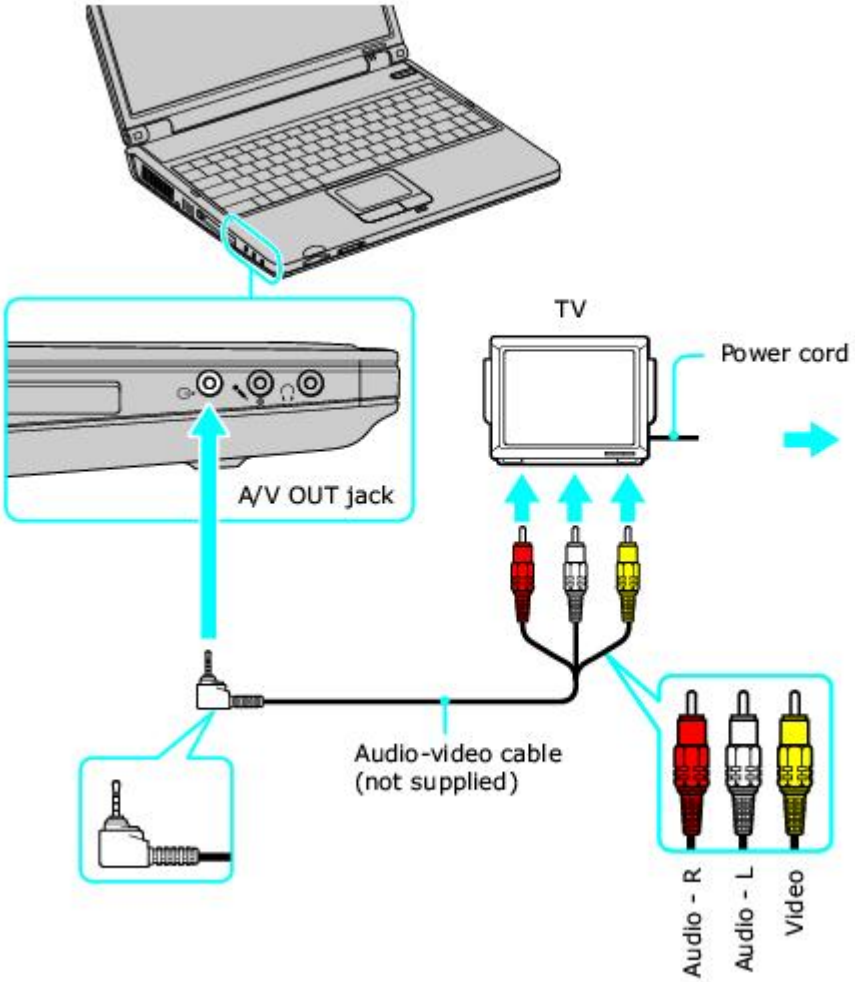
Connecting your computer to a TV

Your computer is equipped with an A/V OUT jack, which enables you to connect your computer to a TV. To locate the A/V OUT jack on your computer, see "Locating Controls and Ports" in the "Setting Up" chapter of your printed VAIO® Computer Quick Start.

To connect a TV to your computer

1. Locate the A/V OUT jack on the computer.
2. Plug one end of an audio-video (AV) cable (not supplied) into the A/V OUT jack.
3. Plug the other end of the AV cable into the audio and video ports on the TV.

Connecting a TV



4. Switch the TV input channel to external input.

See the guide that accompanied your TV for information on how to switch to external input.

Playing DVDs on a TV

To play a DVD

1. Close all open programs.
2. Disable the screen saver and the virus checker.
3. Change the power schemes to **Max Battery** if it is not already selected. See To select a power scheme for more information.
4. Connect the TV to the computer. See Connecting your computer to a TV for more information.
5. Press the **Fn+F7** keys to view the image on either the computer screen (LCD) or the TV. See Selecting a display for more information.

   ⚠ **The Fn+F7 keys will not work once a DVD is inserted into the optical drive. Switching the display while a DVD is playing may cause the computer to malfunction, and you may need to restart the DVD software.**

6. Insert the DVD into the optical drive.
7. Open a preinstalled DVD program, such as InterVideo WinDVD®, by following these steps:
   1. Click **Start** on the taskbar, and point to **All Programs**.
   2. Select a program, such as InterVideo WinDVD, to play the DVD. For instructions on how to use a program, see the help guide included with the DVD program.

   ✍ Systems equipped with a CD-RW/DVD drive can read most DVD-R media.

⚠ **Some discs recorded at 20 or 24 bits may produce noise while playing. If you have audio devices connected, this may damage your hearing and the speakers. Reduce the volume before playing a DVD.**

Do not switch power saving modes while the computer is playing a DVD.

Do not use memory-resident utility software to speed up disc access when playing a DVD. This may cause the computer to malfunction.

Disconnecting your computer from a TV

Simply unplug the audio-video (AV) cable from the A/V OUT jack on the computer.

Playing DVDs on your computer

Your computer is equipped with an optical drive that enables you to watch DVDs and most DVD-R discs on your computer.

To play a DVD while using AC power

1. Close all open programs.
2. Insert the DVD into the optical drive.
3. Open a preinstalled DVD program, such as InterVideo WinDVD®, by following these steps:
    1. Click **Start** on the taskbar, and point to **All Programs**.
    2. Select a program, such as InterVideo WinDVD, to play the DVD. For instructions on how to use a program, see the help guide included with the DVD program

To play a DVD while using battery power

1. Set the power schemes to **Presentation**. See To select a power scheme for more information.
2. To adjust the brightness of the computer screen (LCD):
    - To increase brightness, press the **Fn** key while tapping the **F6** key.
    - To decrease brightness, press the **Fn** key while tapping the **F5** key.

    The lower the brightness the more battery power you conserve.

    ✍ For more information on conserving battery power, see Conserving Battery Power.
3. Insert the DVD into the optical drive.
4. Open a preinstalled DVD program, such as InterVideo WinDVD, by following these steps:
    - Click **Start** on the taskbar, and point to **All Programs**.
    - Select a program, such as InterVideo WinDVD, to play the DVD. For instructions on how to use a program, see the help guide included with the DVD program.

⚠ **Some discs recorded at 20 or 24 bits may produce noise while playing. If you have audio devices connected, this may damage your hearing and the speakers. Reduce the volume before playing a DVD.**

Do not switch power saving modes while the computer is playing a DVD.

Do not use memory-resident utility software to speed up disc access when playing a DVD. This may cause the computer to malfunction.

Writing files to DVDs (on selected models only)

Use the table shown on Copying and Playing CDs and DVDs to see which type of DVD media your computer supports.

You can copy data or video files to DVD-R or DVD-RW discs if your VAIO® computer is equipped with a DVD-RW drive. Before you write data to a DVD-RW or DVD-R disc, read the following notes to avoid a computer malfunction and ensure the best writing results:

- Deactivate the screen saver and exit anti-virus software.
- Deactivate memory-resident disc utilities to avoid data loss.

To write files to DVD media

1. Connect the AC adapter to the computer. See Connecting the AC adapter for more information.
2. Insert a blank DVD-R or DVD-RW disc into the optical drive. See Creating CDs / DVDs with Sony Software for more information.
3. Click **Start**, **All Programs**, and select the DVD software program you want to use from the submenu. Your computer may come with preinstalled Click to DVD software. See the Help guide supplied with the software for more information.

Do not strike or shake the computer while copying files to a disc.

Frequently asked questions

How do I maintain CDs and DVDs?

- Avoid touching the surface of the disc with your fingers. Fingerprints and dust on the surface of the disc may cause reading errors.
- Try using canned compressed air to clean dusty discs.
- Do not clean the disc with solvents (such as benzine, thinner, alcohol, commercially available cleaners, or anti-static spray), which may damage the disc. To clean the disc, follow these steps:
    1. Hold the edge of the disc, and use a soft cloth to wipe the surface from the center out.
    2. If the disc is badly soiled, moisten a soft cloth with water, wring it out well, and use it to wipe the surface of the disc from the center out.
    3. Wipe off any remaining moisture with a dry, soft cloth.
- Do not drop or bend the disc.

Why does my computer freeze when I try to read a disc?

- The disc your computer is trying to read may be dirty or damaged. Follow these steps:
    1. Restart the computer by clicking **Start**, **Turn Off Computer**, and **Restart**.
    2. Eject the disc from the optical drive.
    3. Examine the disc for dirt or damage. If the disc is dirty, see How do I maintain CDs and DVDs? for instructions on how to clean it.

What do I do if the drive tray won't open?

- Make sure the computer is on.
- Press the Eject button on the optical drive.
- If the Eject button does not work, click **Start** on the Windows® taskbar, and click **My Computer**. Right click the optical drive icon, and select **Eject** from the shortcut menu.
- If none of the above options work, insert a thin, straight object (such as a paper clip) in the manual eject hole to the left of the Eject button.

What do I do if the optical drive isn't playing my CD or DVD properly?

- Make sure the disc was inserted into the drive with the label facing up.
- Make sure the necessary program(s) is installed according to the manufacturer's instructions.
- If the CD or DVD is dirty or damaged, the computer will stop responding. Follow these steps:
    1. Restart the computer by pressing the **Ctrl+Alt+Delete** keys, and selecting **Restart** from the **Shut Down** menu of the **Windows Task Manger** dialog box.
    2. Remove the CD or DVD from the optical drive.
    3. Check the disc for dirt or damage. If you need to clean the disc, see How do I maintain CDs and DVDs? for instructions.
- If you are playing a CD or DVD and cannot hear sound, follow these steps:
    1. Double-click the **Volume** icon on the Windows taskbar, and click to cancel the Volume Control and Wave **Mute** check boxes.
    2. Check the volume setting in the audio mixer.
    3. If you are using external speakers, check the volume settings on the speakers and the connections

between the speakers and the computer.

4. If you are using battery-powered external speakers, make sure the batteries are correctly inserted.

5. Make sure the CD audio feature is enabled and the correct driver software is installed. Follow these steps:

    1. Click **Start** on the Windows® taskbar, click **Control Panel**, **Performance and Maintenance**, and **System**. The **System Properties** window appears.

    2. Select the **Hardware** tab, and click **Device Manager** in the **Device Manager** box. A window with a listing of the computer's hardware devices appears.

    ✍ If a "X" or an exclamation point appear on the listed device, you may need to enable the device or reinstall the drivers.

    3. Double-click the optical drive device category to open the submenu.

    4. Double-click the listed drive name, and select the **Properties** tab.

    5. Click to select the **Enable digital CD audio for this CD-ROM device** check box, if it is not selected.

    6. Click **OK** to close the window.

- Make sure an adhesive label was not attached to the CD or DVD. Adhesive labels can come off while the disc is in the optical drive and damage the drive or cause it to malfunction.
- If a region code warning appears, the disc may be incompatible with the optical drive. Check the DVD package to make sure the region code is compatible with the optical drive.
- If you notice condensation on the computer, do not use the computer for at least one hour. Condensation can cause the computer to malfunction.

Why did the computer screen (LCD) go blank?

- Your computer screen may go blank if the computer has lost power or has entered a power saving mode (Standby or Hibernate). If the computer is in LCD (Video) Standby mode, press any key to activate the computer screen. See Using power saving modes for more information.
- Make sure the computer is plugged into a power source and is on. The power indicator on the computer will be on if the computer is on.
- If your computer is using battery power, make sure the battery is inserted properly and is charged. See Using the Battery for more information.
- If the display mode is set to external display, use the **Fn+F7** key combination. See Selecting a display for more information.

How do I adjust the image on the TV screen?

Use the controls on your TV to adjust the image. See the help guide that accompanied your TV for more information.

Why can't I view the entire DVD picture on a TV screen?

The video resolution on the computer may not be properly set for the TV screen. Change the video resolution to a smaller size.

To change the video resolution, follow these instructions:

1. Right-click the desktop, and select **Properties** from the shortcut menu. The **Display Properties** dialog box appears.

2. Select the **Settings** tab.

3. Move the screen resolution slider to the left to reduce the size and to the right to increase the size of the video resolution.

✍ See Selecting a display for more information.

How do I switch the computer screen (LCD) from LCD to TV?

Press the **Fn+F7** keys to view the image on either the computer screen (LCD) or the TV. See Selecting a display for more information.

The Fn+F7 key combination will not work once a DVD is inserted into the optical drive. Switching the display while a DVD is playing may cause the computer to malfunction, and you may need to restart the DVD software.

Is the CD-RW reading speed slower than the CD-ROM or CD-R reading speed?

Generally the CD-RW reading speed is slower than the CD-ROM and the CD-R reading speeds, although reading speeds vary depending on the format you are using.

Printer Connections

- Printing With Your Computer

Printing With Your Computer

Your computer is compatible with many popular printers. However, to ensure the best performance, printers must be compatible with the Microsoft® Windows® operating system installed on your computer.

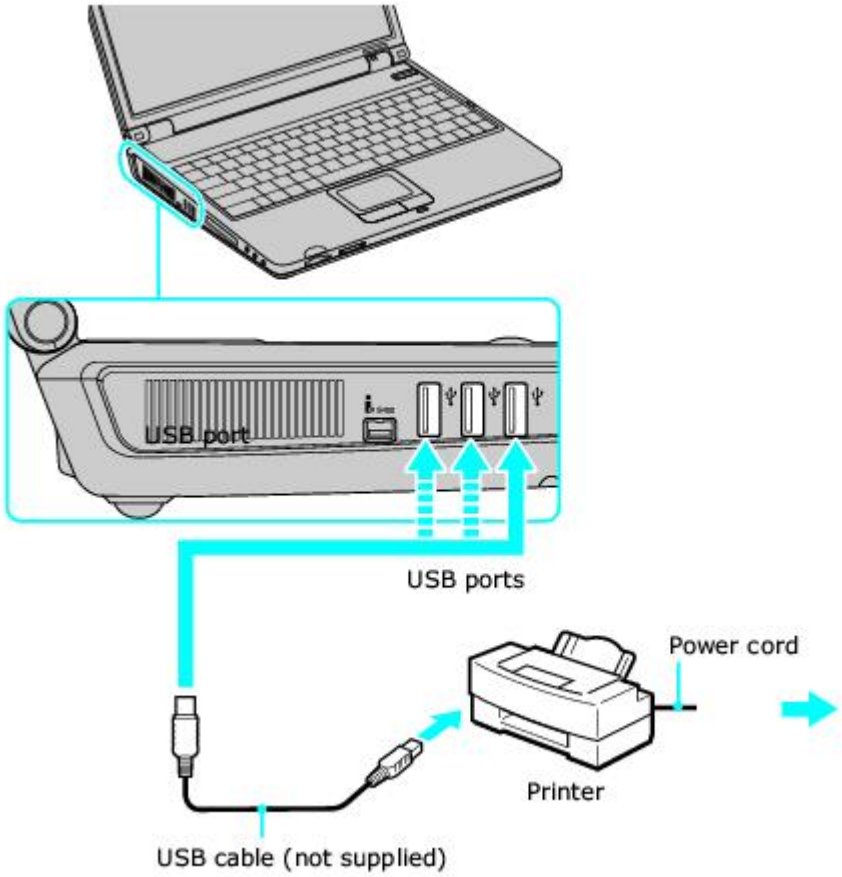
Connecting a printer

You can connect a universal serial bus (USB) printer or, depending on the model, a parallel port printer to your computer. The New Hardware Wizard enables you to easily install the printer software, but some printers require separate driver software installation. See the instructions that accompanied your printer for more information.

To connect a USB printer

1. Plug the USB cable into the USB port on your computer. See "Locating Controls and Ports" in the "Setting Up" chapter of your printed VAIO® Computer Quick Start.
2. Plug the other end of the USB cable into the USB port on the printer. If the **New Hardware Wizard** appears, follow the on-screen instructions to finish setting up the printer.

Connecting a USB Printer

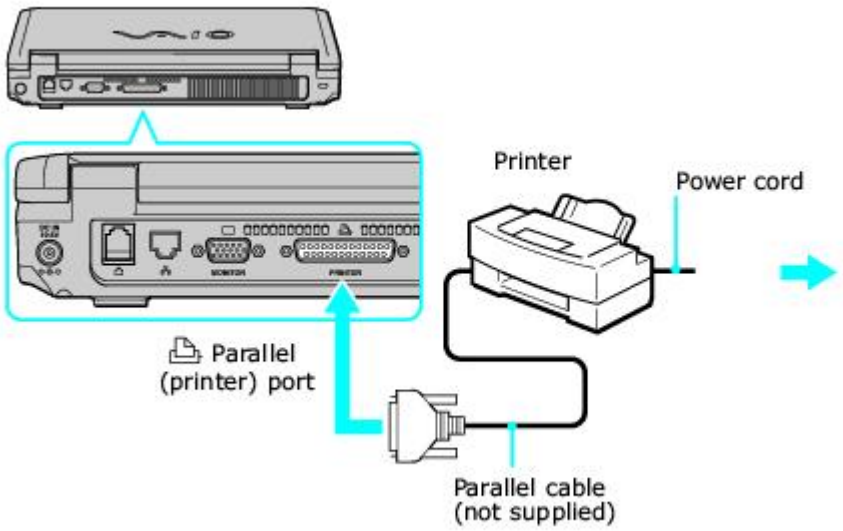


See the guide that accompanied the printer for more information on its installation and use.

To connect a parallel printer

1. Plug the printer cable into the Printer port on your computer. See "Locating Controls and Ports" in the "Setting Up" chapter of your printed VAIO® Computer Quick Start.
2. Plug the other end of the printer cable into the port on the printer.

Connecting a Parallel Port Printer



3. Restart your computer by clicking **Start**, **Turn Off Computer**, and **Restart**. If the **New Hardware Wizard** appears, follow the on-screen instructions.

4. Make sure the computer recognizes the printer. Follow these steps:

   - Click **Start**, **Control Panel**, **Printers and Other Hardware**, and then **Printers and Faxes**.
     If the computer recognizes the printer, it will be listed in the **Printers and Other Hardware** window.
     If the computer does not recognize the printer, you may need to install the printer driver software.

✍ See the guide that accompanied the printer for more information on its installation and use.

Disconnecting a printer

You can disconnect the printer cable when the computer is on or off. Disconnecting a printer when the computer is in a power saving mode (Standby or Hibernate) may cause the computer to malfunction.

To disconnect a printer

- Unplug the printer cable from the computer.

Frequently asked questions

Why can't I print a document?

- Make sure the printer is on, and the printer cable is securely connected to the ports on your printer and computer. See Connecting a printer for more information.
- Make sure the printer is compatible with the Microsoft® Windows® operating system installed on your computer.
- You may need to install the printer driver software before you use the printer. See the guide that accompanied the printer for more information.
- If the printer is not functioning after the computer resumes from a power saving mode (Standby or Hibernate), then restart the computer.
- You may need to change the default printer port setting, although this setting is generally correct for most printers.

1. Click **Start**, and click **Control Panel**.
2. Click **Performance and Maintenance**, and click **System**. The **System Properties** dialog box appears.
3. Select the **Hardware** tab, and click **Device Manager**. The **Device Manager** window appears.
4. Double-click **Ports (COM&LPT)**, and double-click **ECP Printer Port (LPT1)**.
5. Select the **Port Settings** tab, and select a different **LPT Port Number**.

Floppy Disk and PC Card Connections

- Using a Floppy Disk Drive
- Using PC Cards

Using a Floppy Disk Drive

You can connect a floppy disk drive to your computer. The floppy disk drive enables you to read or write data to a floppy disk.

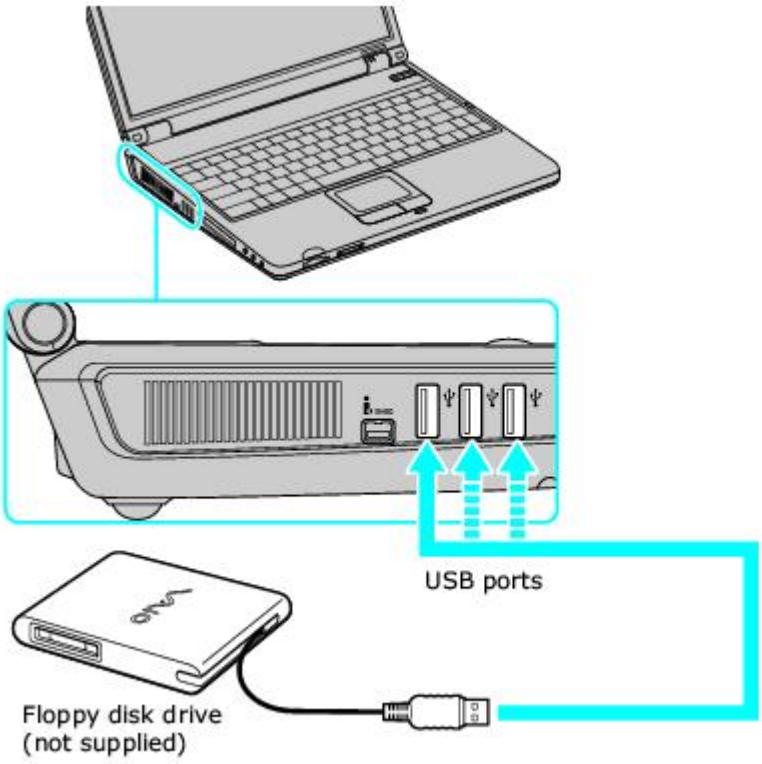
Connecting a floppy disk drive

You can connect a floppy disk drive when your computer is on or off. Connecting the drive when the computer is in a power saving mode (Standby or Hibernate) may cause the computer to malfunction.

To connect a USB floppy disk drive

1. Close any active programs to prevent data loss.
2. Plug the USB cable (with the USB icon facing upward) into the USB port . The **Found New Hardware** pop-up message appears.

Connecting a Floppy Disk Drive



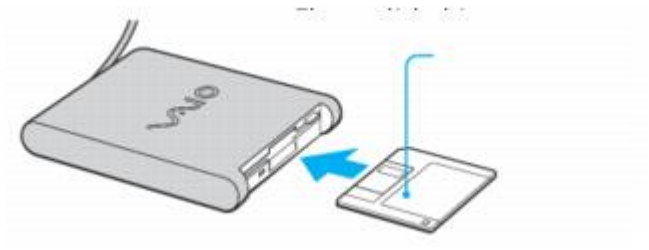
Inserting and removing floppy disks

To write data to a disk, use one that is not write-protected or disable the write-protect feature. The floppy disk drive cannot write data to a disk if it is inserted into the drive improperly.

To insert a floppy disk

1. Hold the floppy disk with the label facing up.
2. Push the floppy disk into the drive until it clicks into place.

Inserting a Floppy Disk



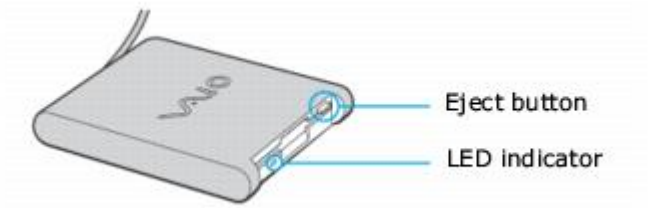
Do not open the shutter manually and touch the surface of the floppy disk.

To remove a floppy disk

1. Close all programs that access the floppy disk.
2. Wait for the LED indicator on the floppy disk drive to turn off.
3. Push the Eject button, and remove the disk.

To avoid losing data, do not push the Eject button when the LED indicator is on.

Removing a Floppy Disk



Protecting floppy disks

- Do not open the shutter manually or touch the surface of the floppy disk.
- Keep floppy disks away from magnets, direct sunlight, and heat sources.

Disconnecting a floppy disk drive

You can disconnect a USB floppy disk drive when the computer is on or off. Disconnecting the drive when the computer is in a power saving mode (Standby or Hibernate) may cause the computer to malfunction.

To disconnect the drive while the computer is on

1. Double-click the **Safely Remove Hardware** icon on the taskbar. The **Safely Remove Hardware** dialog box appears.
2. Click to select the floppy drive **in the Hardware devices window, if it is not already selected**.
3. Click **Stop**. The **Stop a Hardware device** window appears.
4. Make sure the floppy drive is selected, and click **OK.** A message appears, stating it is safe to remove the hardware device.

Storing a floppy disk drive

Fold the floppy disk drive cable and connector into the side compartment on the floppy disk drive.

Storing a Floppy Disk Drive

Frequently asked questions

Why doesn't the Safely Remove Hardware icon appear on the taskbar when the drive is connected?

The computer does not recognize the floppy disk drive. First, make sure the USB cable is properly connected to the USB port. If you need to secure the connection, wait a few moments for the computer to recognize the drive. If the icon still does not appear, follow these steps:

1. Close all programs that were accessing the floppy disk drive.
2. Wait for the LED indicator on the floppy disk drive to turn off.
3. Push the Eject button, and remove the disk.
4. Reconnect the floppy disk drive by inserting the USB connector (with the USB icon facing upward) into the USB port .
5. Restart the computer by clicking **Start** on the Windows® taskbar, **Turn Off Computer**, and then **Restart**.

Why is the drive unable to write data to a floppy disk?

Make sure the floppy disk is properly inserted in the drive. See Inserting and removing floppy disks for instructions on how to insert the disk properly.

If the disk is inserted properly and you are still unable to write data to it, the disk may be full or write-protected. You can either use a floppy disk that is not write-protected or disable the write-protect feature by moving the write-protect tab into the close position.

Using PC Cards

Your computer includes one or more PC Card slots. A PC Card enables you to connect devices such as an optical drive, floppy disk drive, or Network Interface Card (NIC).

See your VAIO® Computer Specifications for the type of PC Card that is compatible with your computer. These slots are compatible with CardBus. If your computer has more than one PC Card slot, use the lower slot for Type III PC Cards. You do not need to turn off your computer to insert or remove a PC Card.

Inserting PC Cards

To insert a PC Card

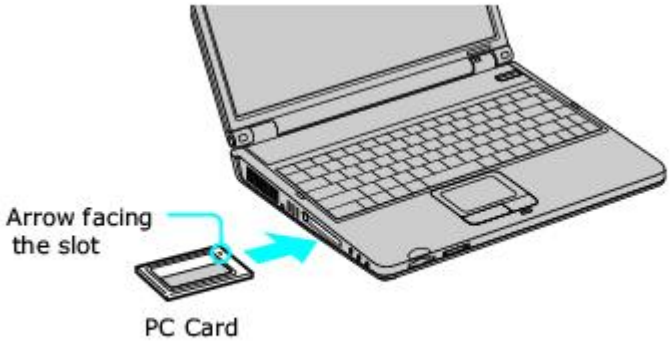
1. Make sure the front label of the PC Card is facing up.
2. Push the PC Card gently into the slot. The system automatically detects the PC Card.

Do not force a PC Card into the slot; this may damage the connector pins.

When a PC Card is inserted, do not place your computer in a bag or case. Pressure or shock to a PC Card may damage your computer.

Touching the head of the PC Card will not damage the connector pins, but damage may occur if the head of the PC Card is sticking out of the PC Card slot while the computer is being transported.

Inserting a PC Card



Removing PC Cards

You can remove PC Cards while the computer is on or off. PC Cards draw power from the computer when they are inserted into the PC Card slot, whether or not you use the card.

If you are not using your PC Card and you are using a battery as a power source, remove the PC Card from the PC Card slot to conserve battery power.

To remove a PC Card while your computer is on

1. Double-click the **Safely Remove Hardware** icon on the taskbar. The **Safely Remove Hardware** dialog box appears.
2. Click to select the PC Card **in the Hardware devices window, if it is not already selected**.
3. Click **Stop**. The **Stop a Hardware device** window appears.
4. Make sure the PC Card is selected, and click **OK.** A message appears stating it is safe to remove the hardware device.
5. Push the Eject button. The Eject button pops out.
6. Push the Eject button a second time. The PC Card pops out.
7. Gently pull the card out of the slot.

To remove a PC Card while the computer is off

1. Push the Eject button once. The Eject button pops out.
2. Push the Eject button a second time. The PC Card pops out.
3. Gently pull the card out of the slot.

Frequently asked questions

Why doesn't my PC Card work?

- Make sure the PC Card is inserted properly. See Inserting PC Cards for more information.
- Make sure the PC Card is compatible with the Microsoft® Windows® operating system installed on your computer.
- See the instructions that accompanied your PC Card. You may need to install driver software if you are not using a Sony PC Card.

Why doesn't my computer recognize attached devices?

For some PC Cards, if you alternate between normal power operation and the Standby or Hibernate modes while the card is inserted into the PC Card slot, the computer may not recognize the PC Card or the connected device. Restart your computer.

Why can't I insert my PC Card?

- Make sure you are inserting the card correctly. See Inserting PC Cards for more information.
- You may not be able to use some PC Cards or some functions of the PC Card with this computer. Check the guide that accompanied your PC Card for more information on its use.

Why does an exclamation mark (!) appear in the Device Manager window?

- The exclamation mark indicates there is a problem with the specified device. Make sure all cable and power connections are secure.
- You may not be using the most recent driver software provided by the PC Card manufacturer. Make sure the necessary drivers are installed. You may need to remove the driver software, and reinstall it.

Audio and Video Connections

- Using i.LINK Digital Video Recorders
- Using Computer Monitors and Projectors
- Changing Video Memory Size
- Using Speakers
- Using Microphones

Using i.LINK Digital Video Recorders

You can connect a digital video (DV) recorder, such as an i.LINK®[1] digital video camera recorder, to the i.LINK® S400 (IEEE 1394) port on your computer. The i.LINK digital video camera recorder is an external device that enables you to record and view digital images.

[1] i.LINK is a trademark of Sony used to designate that a product contains an IEEE 1394 connector. The i.LINK connection may vary, depending on the software application, operating system, and compatible i.LINK devices. All products with an i.LINK connection may not communicate with each other. Refer to the documentation that came with your compatible i.LINK device for more information on operating conditions and proper connection. Before connecting compatible i.LINK PC peripherals to your system, such as a CD-RW or hard disk drive, confirm their operating system compatibility and required operating conditions.

Connecting an i.LINK digital video recorder

You can connect an i.LINK digital video (DV) recorder when the computer is on or off. Connecting the DV recorder when the computer is in a power saving mode (Standby or Hibernate) may cause the computer to malfunction.

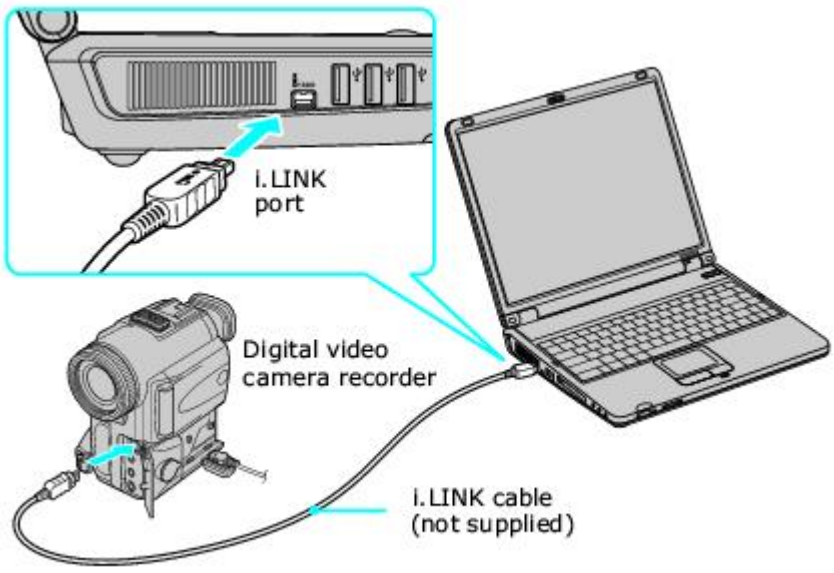
Before you connect an i.LINK digital video recorder

- Do not connect more than one digital video camera recorder at a time. The preinstalled programs on your computer will not recognize multiple cameras.
- Do not connect an external device that requires power from the i.LINK port. The i.LINK port does not supply power to the external device.
- The i.LINK port supports transfer rates of up to 400 Mbps; however, the actual transfer rate is the lowest transfer rate of the external device.
- The i.LINK features available may vary depending on the programs you use. See the help guide that accompanied your program for more information.

To connect an i.LINK digital video recorder

1. Turn on the digital video (DV) device and the computer.
2. Plug the i.LINK® cable into the i.LINK port on the DV device.
3. Plug the other end of the i.LINK cable into the i.LINK port on your computer. The **Found New Hardware** window appears on the lower right corner of your screen.

Connecting an i.LINK Digital Video Camera Recorder



See the guide that accompanied your digital video camera recorder for more information on its installation and use.

Disconnecting the i.LINK digital video recorder

You can disconnect the digital video recorder while the computer is on or off. Simply unplug the i.LINK cable from the i.LINK port on the computer. Disconnecting the cable when the computer is in a power saving mode (Standby or Hibernate) may cause the computer to malfunction.

Using a digital video camera recorder

Your computer comes with preinstalled driver software that is compatible with most Sony digital video camera recorders. If you purchased a camera that comes with its own driver software, install these drivers before you use the camera.

To view images

You can view images captured by your digital video camera recorder three different ways. Select one set of instructions from the following list:

- If your digital video camera recorder is compatible with the preinstalled programs, the **Digital Video Device** window appears when you connect the camera to the computer. Select the program you want to use in this window, and click **OK**.
- Click **Start**, and click **All Programs**. Select a program in which to view your images.
- Click Start, and click Welcome to VAIO life. Click Music, Movies, and Pictures, and then select a program in which to view your images.

Frequently asked questions

Why can't I use the DV recorder?

You may not be able to use the DV recorder, and the message **DV equipment seems to be disconnected or turned off** may appear because the i.LINK[1] cable is not securely plugged into the ports on the computer or camera. Unplug the connectors, and plug them in again. See Connecting an i.LINK digital video recorder for more information.

[1] i.LINK is a trademark of Sony used only to designate that a product contains an IEEE 1394 connection. The i.LINK connection may vary, depending on the software applications, operating system, and compatible i.LINK devices. All products with an i.LINK connection may not communicate with each other. Refer to the documentation that came with your compatible i.LINK device for information on operating conditions and proper connection. Before connecting compatible i.LINK PC peripherals to your system, such as CD-RW or hard disk drive, confirm their operating system compatibility and required operating conditions.

Using Computer Monitors and Projectors

You can connect an external display (such as a computer monitor or a projector) to your computer.

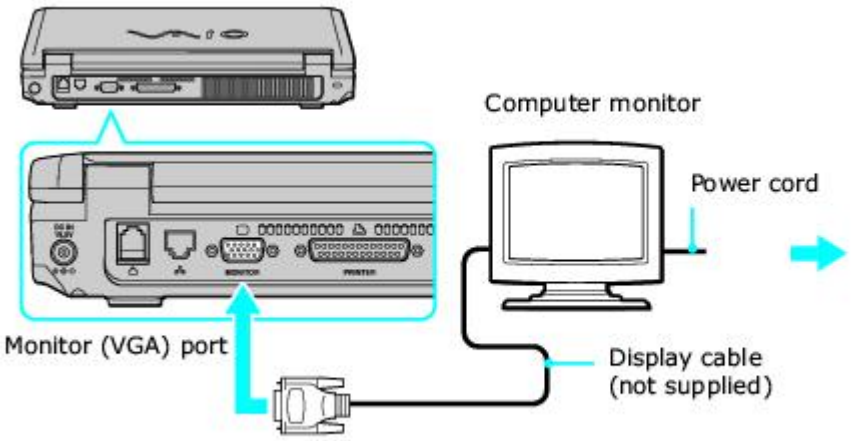
Connecting a computer monitor

Your computer can display images to the computer screen (LCD), to an external computer monitor, or to both the LCD and external monitor while your computer is on.

To connect a computer monitor

1. Make sure the computer monitor is plugged into an AC outlet.
2. Plug the display cable into the Monitor (VGA) port on the computer.
3. If it is not already on, turn on the computer monitor.
4. Press the **Fn**+**F7** keys to toggle the display between your computer, the monitor, or both the computer and monitor. See Selecting a display for more information.

Connecting a Computer Monitor



Connecting a multimedia device

You can connect a multimedia device, such as a multimedia computer monitor or projector, to your computer. Connecting a multimedia device enables you to display images on your computer screen (LCD), the multimedia device, or both.

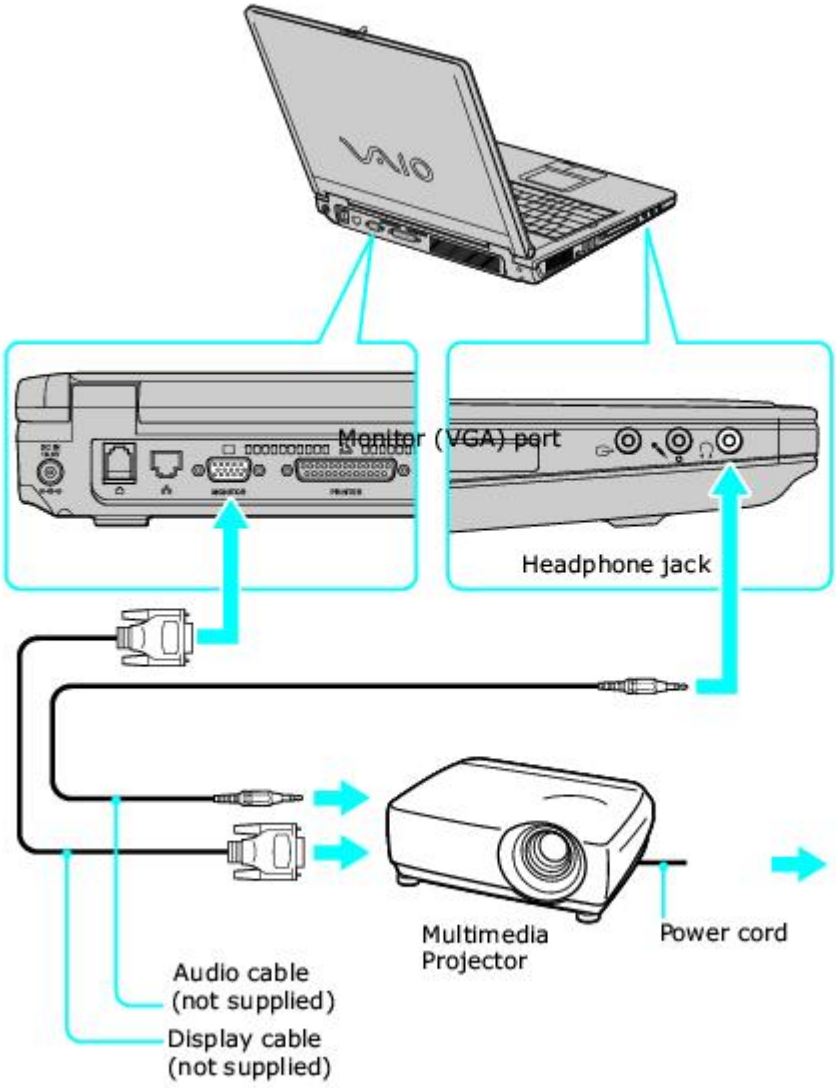
For information on connecting a TV to your computer, see Playing DVDs.

To connect a multimedia computer monitor or projector

1. Plug the device into an AC outlet.
2. Plug the video cable into the Monitor (VGA) port on your computer. If you are using a multimedia computer monitor, which has built-in speakers and a microphone, you will also need to plug the audio cable into the Headphone jack on your computer to hear sound.

   To locate the Monitor port and Headphone jack, see "Locating Controls and Ports" in the "Setting Up" chapter of your printed VAIO® Computer Quick Start.

Connecting a Projector



3. Turn on the device (if it is not already on), and then turn on your computer.
4. Press the **Fn**+**F7** key combination to toggle the display between your computer, the monitor, or both. See Selecting a display for more information.

See the guide that accompanied your projector for more information on its installation and use.

Selecting a display

When you connect an external display (projector, computer monitor, or TV) to your computer, you can switch the display between the computer screen (LCD), the external display, or both, using shortcut keys or the Display Properties settings.

To switch displays using the Fn+F7 shortcut keys

1. Make sure the display cable (not supplied) is connected to the external display and the computer.
2. If the computer is not on, then press the power button.
   If the computer is on, restart it by clicking **Start**, **Turn Off Computer**, and **Restart**.
3. Press the **Fn+F7** keys. A small window appears near the taskbar. Press either the **Left Arrow** ← key or **Right Arrow** → key to select a display option, or press **FN+F7** again, until you get the desired display option.

   ✍ Select one display at a time before playing a DVD. You cannot use the Fn+F7 function to switch between the LCD and TV once a DVD is inserted into the optical drive.

To switch the display using the Display Properties settings

✍ Depending on the external display, you may need to connect the display to the computer before you turn the computer on.

1. Click **Start** on the Windows® taskbar, and then click **Control Panel** and **Appearance and Themes**.
2. Click **Display**. The **Display Properties** window appears.
3. Click the **Settings** tab, and then click the **Advanced** button.
4. Click the **Displays** tab. The Sony Notebook LCD and RADEON IGP Properties window appears.

Sony Notebook LCD and RADEON IGP Properties

When a display is connected to your computer, a red button appears on the properties window next to the picture of the display that is connected.

5. Click the red button next to **Monitor**, **Panel**, or **TV**.
6. Click **Apply**.
   The **ATI Property Page** message box appears.
7. Click **Yes**.
8. Click **OK**.

9. For more information, click **Help**.

✍ If you cannot see your movie or DVD on the external display, change the monitor or TV setting by clicking on the **Primary** icon on the display panel of your choice.

✍ You may not be able to display the computer screen (LCD) and an external display or projector at the same time, depending on the types of computer displays and projectors you are using.

Disconnecting a computer monitor or projector

You can disconnect the external computer monitor or projector by unplugging the display or Monitor (VGA) cable from your computer's port. Disconnecting the external display when the computer is in a power saving mode (Standby or Hibernate) may cause the computer to malfunction.

Changing Video Memory Size

The computer's main memory is dynamically shared with the video RAM (VRAM). You can decrease the system's VRAM or increase it for graphic-intensive applications.

Changing the video memory size automatically changes the system's main memory size and may also affect the performance of some programs.

To change the video memory size

1. Disconnect all attached devices, except the AC adapter.
2. Restart the computer by clicking **Start**, **Turn Off Computer**, and **Restart**.
3. While restarting, press the **F2** key when the VAIO logo appears. The BIOS Setup window appears.
4. Press the **Right Arrow** key to select the **Advanced** tab.
5. Press the **Down Arrow** key to select **UMA Video Memory Size**, and press **Enter**. A window appears with a list of memory size options.
6. Press the **Up Arrow** or **Down Arrow** keys to select a memory size, and press **Enter**.
7. Select **Save and Exit** by pressing the **F10** key. The **Setup Confirmation** window appears.
8. Make sure **Yes** is selected, and press **Enter**. The computer automatically restarts.

Using Speakers

Your computer comes with built-in stereo speakers. If you wish to enhance the sound quality of your computer, you can purchase and connect external speakers. If you want to purchase speakers, make sure the speakers are designed for computer use. You can shop Sony online at http://www.sonystyle.com/vaio or contact your local retailer.

Connecting speakers

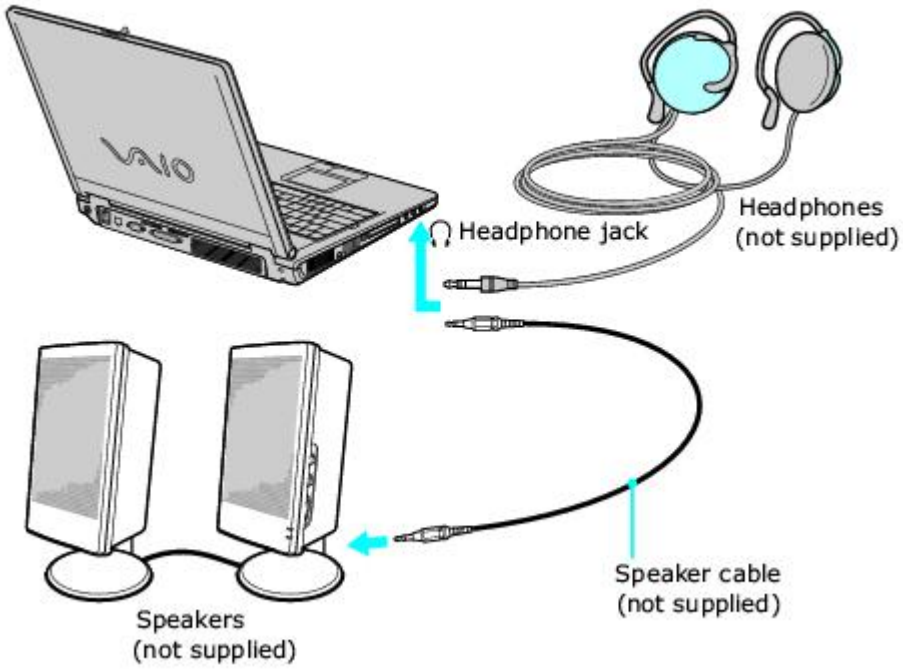
You can connect speakers to your computer to enhance the sound quality of your computer.

Do not place floppy disks on the speakers. The speakers' magnetic field may damage the data stored on the floppy disks.

To connect speakers to your computer

1. Turn down the volume of the speakers.
2. Plug the speaker cable into the Headphone jack on the computer.
3. Plug the other end of the speaker cable into the speaker.

Connecting Speakers



See the guide that accompanied your speakers for more information on its installation and use.

Disconnecting speakers

You can disconnect external speakers when the computer is on or off. Simply unplug the speaker cable from the Headphone jack on the computer.

Adjusting the volume

To adjust the volume for playing CDs and DVDs, use the **Volume** icon on the Windows® taskbar. Adjusting the volume for playing CDs or DVDs does not adjust the volume for recording to CDs or DVDs.

You can only adjust the recording volume in the **Recording Control** window. See Using a microphone to record sound for instructions on how to open this window.

To adjust the volume of your speakers

1. Right-click the **Volume** icon on the Windows® taskbar, and select **Open Volume Control**. The **Volume Control** window appears.
2. Click and drag the **Volume Control** slider up to increase volume and down to decrease volume.
3. Click to cancel any **Mute** check boxes that are selected.

Sound device	Function
Volume Control	Adjust the sound level from the speakers or headphones.
Wave	Adjust the wavfile sound or the system sound of Windows.
SW Synth	Adjusts the internal or external synthesizer volume.
Microphone[1]	Adjust the internal or external microphone volume.
Telephony[1]	Adjust the modem or telephone volume.
PC Beep[1]	Adjust the beep sound when inserting or removing the PC Card and other devices.
Line[1]	Adjusts the sensitivity of volume input.

[1] On selected models only.

As a shortcut, you can press the **Fn** key while tapping the **F4** key to increase the volume or press the **Fn** key while tapping the the **F3** key to decrease the volume. You can also press the **Fn+F2** keys to toggle the mute option on and off.

Enabling the audio feature

If you do not hear sound when playing a CD or DVD, you may need to enable the audio feature.

To enable the audio feature

1. Click **Start** on the Windows® taskbar, and click **Control Panel**.
2. Click **Performance and Maintenance**, and click **System**. The **System Properties** window appears.
3. Select the **Hardware** tab, and click **Device Manager**. The **Device Manager** window, which lists the hardware devices, appears.
4. Double-click **DVD/CD-ROM drives**.
5. Double-click the listed drive name, and click the **Properties** tab.
6. Click the **Enable digital CD audio for this CD-ROM device** check box if it is not already selected.

Frequently asked questions

Why won't my speakers work?

- Make sure the speakers are properly connected and the volume is turned up loud enough to hear sound.
- Your speakers may not be designed for computer use.
- If the speakers have a mute button, set the button to off.
- If the speakers have a volume control, make sure the volume is turned up loud enough to hear sound.
- If you have connected an audio cable to the Headphone jack, disconnect the cable and use the speaker cable that was supplied with the speakers.
- If you are using battery power, make sure the battery(s) is inserted properly and is charged. See Using the Battery for more information.
- If the speakers require external power, make sure the speakers are connected to a power source. See the guide that accompanied the speakers for more information.

Why can't I hear sound from my speakers?

- If the computer is using battery power, make sure the battery is properly inserted and is charged. See Using the Battery for more information.
- If you are using a program that has its own volume control, make sure the volume control is properly set. See that program's help guide for more information.
- Your speakers may be set to mute, the volume setting may be too low, or the audio option may be disabled. See Adjusting the volume and Enabling the audio feature for more information.

Why don't the Fn+F2, Fn+F3, and Fn+F4 key combinations work?

The Fn+F2 keys toggle the built-in speaker mute option on and off. The Fn+F3 and the Fn+F4 keys adjust the built-in speaker volume. The computer may not recognize the Fn+F3 and Fn+F4 keys if the correct speakers are not selected. Follow these steps:

1. Right-click the **Volume** icon on the taskbar, and select **Adjust Audio Properties**.
2. On the **Volume** tab, click **Advanced** in the **Speaker settings** box. The **Advanced Audio Properties** window appears.
3. On the **Speakers** tab, select the correct speaker setup from the **Speaker setup** drop-down menu.

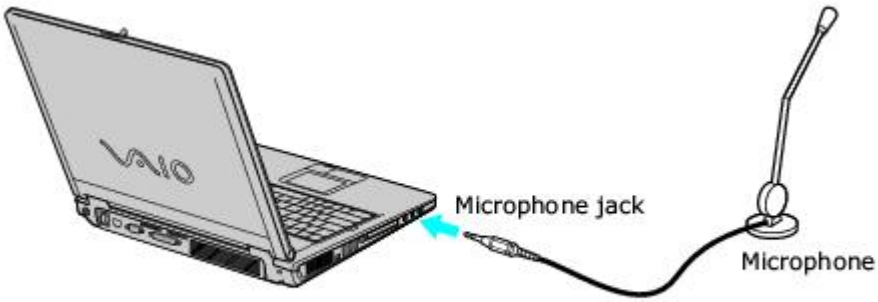
Using Microphones

You can connect an external microphone to your computer; however, make sure your microphone is designed for computer use. If you wish to purchase a microphone, shop Sony online at http://www.sonystyle.com/vaio or contact your local retailer.

Connecting a microphone

Plug the microphone cable into the Microphone jack[1] on the computer.

Connecting a Microphone



See the guide that accompanied your microphone for more information on its installation and use.

[1] A protruding dot located next to the Microphone jack distinguishes this jack from the Headphone jack.

Disconnecting a microphone

You can disconnect an external microphone when the computer is on or off. Simply unplug the microphone cable from the Microphone jack on the computer.

Using a microphone to record sound

You can record messages, memos, etc. by connecting a microphone to the Microphone jack[1] on your computer.

To record from a microphone

1. Double-click the **Volume** icon on the Windows® taskbar. The **Volume Control** window appears.
2. From the **Options** menu, click **Properties**. The **Properties** dialog box appears.
3. Click to select the **Recording** option in the **Adjust volume for** box.
4. In the **Show the following volume controls** box, make sure **Microphone** is selected.
5. Click **OK**. The **Recording Control** window appears.
6. Click the **Select** check box at the bottom of the **Microphone** column, if it is not already selected. Close the **Recording Control** window.
7. Click **Start**, and select **All Programs**, **Accessories**, **Entertainment**, and then **Sound Recorder**. The **Sound - Sound Recorder** window appears.

For help using Sound Recorder, click **Help** in the **Sound Recorder** window.

To adjust the volume for recording sound

You can only adjust the volume for recording in the **Recording Control** window.

1. Right-click the **Volume** icon on the taskbar, and select **Adjust Audio Properties**.
2. On the **Audio** tab, click **Volume** in the **Sound recording** box. The **Recording Control** window appears.
3. Click and drag the **Microphone** slider up to increase volume and down to decrease volume.

[1] A protruding dot located next to the Microphone jack distinguishes this jack from the Headphone jack.

Frequently asked questions

Why doesn't my microphone work?

If you are using an external microphone, make sure the microphone is turned on and is properly plugged into the Microphone jack on the computer. See Connecting a microphone for more information.

Memory Upgrades

Before you upgrade your computer's memory, read your VAIO® Computer Specifications. It contains valuable information on the amount of memory installed in your computer and the type of module that is compatible with your computer. See Welcome for a link to your computer's specifications.

Also, read the safety information in Precautions and Procedures before you upgrade your computer's memory.

- Precautions and Procedures
- Removing and Installing Memory Modules
- Confirming Added Memory Capacity

Precautions and Procedures

Sony recommends that memory upgrades be performed by an authorized Sony Service Center. To find the nearest center or agent, go to: http://www.sony.com/pcsupport.

The procedures described below assume familiarity with the general terminology associated with personal computers and with the safety practices and regulatory compliance required for using and modifying electronic equipment. When installing a memory module in your computer, make sure you read the proper safety precautions below. Mistakes that occur when installing or removing a memory module may cause a malfunction.

- Turn off the computer. Disconnect the computer from its power source and from any telecommunications links, networks, or modems before you install or remove a memory module. Failure to do so may result in personal injury or equipment damage.
- Introducing any liquids or any foreign substances or objects into the memory slots, or other internal components of the computer, will result in damage to the computer.
- Electrostatic discharge (ESD) can damage disk drives, memory modules, and other components. Perform the procedures described below only at an ESD workstation. If such a station is not available, do not work in a carpeted area, and do not handle materials that produce or hold static electricity (cellophane wrappers, for example). Ground yourself by momentarily touching an unpainted metal object that is grounded, such as a pipe, radiator, or faucet.
- Do not open the memory module package until you are ready to install the module. The package protects the module from ESD.
- Use the special protective package to store a memory module and prevent ESD.
- Only use memory modules that are compatible with your computer. For the type of module and amount of memory installed on your computer, go to http://www.sony.com/pcsupport to find and view the VAIO® Computer Specifications. If you wish to purchase a memory module, shop Sony online at http://www.sonystyle.com/vaio or contact your local retailer.

Removing and Installing Memory Modules

Make sure you read the safety information in Precautions and Procedures before you remove or install a memory module. When installing a memory module, do not open the module package until you are ready to install it. The package protects the module from Electrostatic discharge (ESD).

For memory upgrades and information about which memory modules to use, refer to your VAIO® Computer Specifications available on the Welcome page.

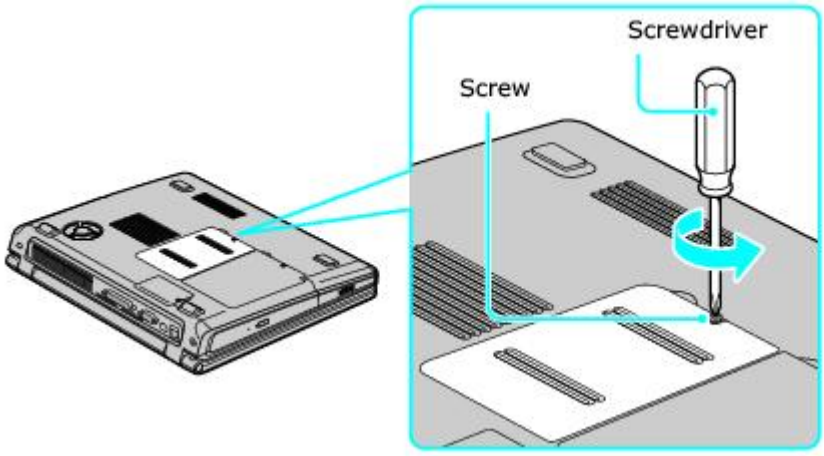
To remove a memory module

1. Turn off the computer and all attached devices.
2. Disconnect the power cord, all cables, and remove the battery if it is installed. See "To remove the battery."
3. Wait for the computer to cool down.

   The interior of the computer becomes extremely hot during operation. Wait at least one hour for the computer to cool down before you remove the screws.
4. Turn the computer over and use an appropriate screwdriver to loosen and remove the screw(s) on the memory bay.

   To avoid damaging the computer, do not remove or loosen any other screws.

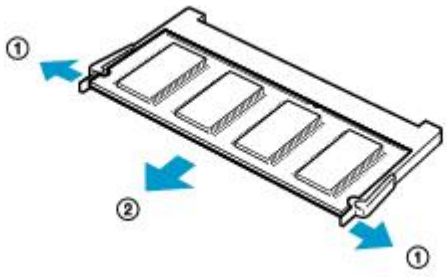
Removing the Bottom Screw(s)



5. Remove the cover.
6. Touch a metal object (such as the connector panel on the back of your computer) to discharge static electricity.

   Avoid touching any part of the motherboard or other components inside the computer.
7. Remove the memory module by pulling out the tabs (see arrows No. 1), and pulling out the module in the direction of arrow No. 2. See To install a memory module for more information.

Removing a Memory Module

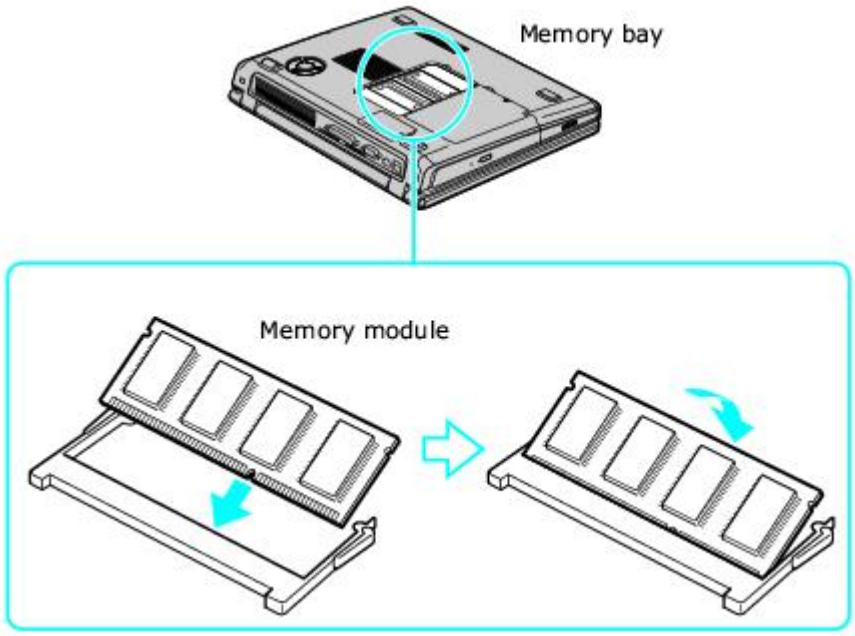


To install a memory module

1. Remove the new memory module from its packaging, and install the memory module by sliding it into the open

slot at a 45-degree angle. See To remove a memory module.

Installing a New Memory Module



2. Push the module down until it snaps into place.
3. When the module is correctly seated, close the memory bay.
4. Replace the fastening screw(s) on the memory bay.
5. Make sure the system recognizes the new memory module. See Confirming Added Memory Capacity for more information.

Confirming Added Memory Capacity

After you've installed a new memory module, make sure the operating system recognizes it.

To check your system's memory

1. Turn on the computer.
2. Click **Start** on the Windows® taskbar, point to **All Programs**, and then click **VAIO Control Center**.
3. Double-click **System Information**. The **System Information** dialog box appears.
4. Make sure the **System Memory** displayed in the **System Information** box matches the amount of memory installed.

The displayed memory size may be less than the installed memory due to the amount used by the display adapter.

Troubleshooting

Learn how to solve some basic problems you may encounter when using your VAIO® computer. Refer to these solutions before contacting Sony Computing Support (http://www.sony.com/pcsupport).

- Troubleshooting Your Computer

What do I do if my computer won't start?

- Make sure the computer is securely plugged into a power source and turned on. Make sure the power indicator shows the power is on.
- Make sure the battery is inserted properly and charged.
- Make sure the floppy disk drive (if applicable) is empty.
- If the computer is plugged into a power strip or uninterruptible power supply (UPS), make sure the power strip or UPS is turned on and working.
- If you are using an external display, make sure it is plugged into a power source and turned on. Make sure the brightness and contrast controls are adjusted correctly. See the guide that came with your display for details.
- Disconnect the AC adapter and remove the battery. Wait one minute. Reattach the AC adapter and reinsert the battery. Turn on the power.
- Condensation may cause the computer to malfunction. If this occurs, do not use the computer for at least one hour.

What do I do if a BIOS error appears when my computer starts?

If the message "Press <F1> to resume, <F2> to setup" appears at the bottom of the screen, follow these steps:

1. Press **F2**. The **BIOS Setup** menu appears.
2. Set the date (month/day/year). Press **Enter**.
3. Press the **Down Arrow** key ↓ to select **System Time**, and then set the time (hour: minute: second). Press **Enter**.
4. Press the **Right Arrow** key →to select the **Exit** tab, and then press the **Down Arrow** key ↓ to select **Get Default Values**. The message **Load default values for all SETUP items** appears.
5. Press **Enter**. The **Setup Confirmation** window appears.
6. Select **Yes**, and press **Enter**.
7. Select **Exit (Save Changes)**, and press **Enter**. The **Setup Confirmation** window appears again.
8. Select **Yes**, and press **Enter**. The computer restarts.

✍ If this occurs on a regular basis, contact Sony Computing Support (http://www.sony.com/pcsupport).

What do I do if the message "Operating system not found" appears when my computer starts, and why won't Windows start?

- Make sure the computer does not have a "non-bootable" floppy disk in the floppy disk drive (if applicable).
- If a non-bootable floppy disk is in the drive:
  1. Remove the floppy disk.
  2. Restart the computer and confirm that the Microsoft® Windows® operating system starts properly.
- If Windows still does not start, follow these steps to initialize the BIOS:
  1. If there is a disk in the floppy disk drive, then remove it.
  2. Turn off the computer.
  3. Remove any peripheral devices connected to the computer.
  4. Restart the computer.

5. Press **F2** when the VAIO logo appears. The **BIOS Setup** window appears.
6. Press the **Right Arrow** key → to select the **Exit** menu.
7. Press the **Down Arrow** key ↓ to select **Get Default Values**. The message **Load default values for all SETUP items** appears.
8. Press **Enter**. The **Setup Confirmation** window appears.
9. Select **Yes**, and press **Enter**.
10. Select **Exit (Save Changes)**, and press **Enter**. The **Setup Confirmation** window appears again.
11. Select **Yes**, and press **Enter**. The computer restarts.

What do I do if my computer stops responding? Why can't I turn off my computer?

It is best to turn off your computer using the Turn Off Computer option on the Microsoft® Windows® Start menu, located on the taskbar. Using other methods, including those listed below, may result in loss of unsaved data.

- Click **Start** on the Windows® taskbar, select **Turn Off Computer**, and then click **Turn Off**.
- If your computer does not turn off, press the **Ctrl**+**Alt**+**Delete** keys simultaneously. When the **Windows Task Manager** dialog box appears, click **Turn Off** from the **Shut Down** menu.
- If your computer still does not turn off, press and hold the power button or slide and hold the power switch until the computer turns off.
- If your computer stops responding while playing a CD or DVD, press the **Ctrl**+**Alt**+**Delete** keys simultaneously. You can turn off the computer from the **Windows Task Manager**.

  ✍ Pressing the **Ctrl**+**Alt**+**Delete** keys simultaneously or turning off the computer with the power button or switch may cause loss of data.
- Remove the AC adapter and battery.

Why won't my computer enter Standby or Hibernate mode?

Your computer may become unstable if the operating mode is changed before the computer completely enters Standby or Hibernate.

To restore the computer to normal operating stability:

1. Close all open programs.
2. Restart the computer. Follow these steps:
   1. Press the **Windows** key ⊞.
   2. Press **U**.
   3. Press **R** to select restart.
3. If the computer does not restart, follow these steps:
   1. Press the **Ctrl**+**Alt**+**Delete** keys simultaneously. The **Windows Task Manager** window appears.
   2. Press and release **Alt** to highlight the menu bar, and press the **Right Arrow** → key to select Shut Down.
   3. Press **Enter**.
   4. Press **R** to select restart.
4. If this procedure does not work, press and hold the power button or slide and hold the power button until the computer turns off.

Why is the sound of my computer's fan so loud?

The computer's fan may be running at a high speed to cool the CPU. By lowering the CPU speed, you also lower the speed and noise level of the computer's fan. Use the power schemes to lower the CPU speed.

To lower the CPU speed using the power schemes:

1. Click **Start** on the Windows® taskbar, and click **Control Panel**.
2. Click **Performance and Maintenance**, and click **Power Options**. The **Power Options Properties** window appears.
3. Select **Portable/Laptop** in the **Power schemes** box.
4. Click **Apply**.
5. Click **OK**.

Why does the System Properties dialog box display a slower CPU speed than the maximum?

This is normal. Because your computer's CPU utilizes a type of CPU speed controlling technology for power conservation purposes, System Properties may display the CPU's current speed instead of the maximum speed.

Why don't my changes appear on the computer screen (LCD)?

You may need to refresh the computer screen. Press and hold the **Windows** key , and press **D** twice.

What do I do if my program stops responding or crashes?

- Try restarting your computer.
    1. Click **Start** on the Windows® taskbar, and click **Turn Off Computer**.
    2. Click **Restart**.
- If restarting your computer does not work, contact the software publisher or designated provider for technical support.

Which program do I use for CD-R/CD-RW functions?

- To write data files to a CD-R or CD-RW disc, use the Microsoft® Windows® operating system software on your computer.
- To write audio files to a CD-R or CD-RW, use the Sony SonicStage program preinstalled on your computer. Follow these steps to open Sony SonicStage:
    1. Click **Start**, and then click **All Programs**.
    2. Point to **SonicStage**, and then click **SonicStage** from the submenu.
       For more information about the SonicStage program, see the SonicStage online help.

Support Options

The section contains information on where to go for answers to questions about your VAIO® computer and the preinstalled software.

Sony Support Information

Refer to the following sources for answers in the sequence listed below.

1 VAIO® Computer Documentation

This on-screen VAIO® Computer User Guide and the printed VAIO Computer Quick Start provide detailed information on how to maximize your computer's capabilities and solve common problems.

2 Program Guides and Help Files

The preinstalled programs on your computer may come with individual help guides. These guides are stored on the hard disk as on-screen Help files. You can find the Help files from the Help menu under the specific program.

3 Operating System Online Support

Your computer comes preinstalled with a Microsoft® Windows® operating system. For operating system support, you can visit Microsoft® customer support at: http://support.microsoft.com/directory/.

4 Sony Computing Support

This service provides instant access to information on commonly encountered problems. Type a description of the problem and the Knowledge Database searches for the corresponding solutions online. You can visit Sony Computing Support at: http://www.sony.com/pcsupport.

5 VAIO Update

When your computer is connected to the Internet, VAIO Update automatically notifies you when critical software and security information is posted on the support Web site. Click the VAIO Update notice to open the VAIO Support Web site and view the information. You can also right-click the **VAIO Update** icon in the **Taskbar Notification** area and select **Go to VAIO Web Support** to open the support Web site.

Program Support Information

Depending on the computer model and particular configuration you purchased, your computer may not include all of the software programs listed below.

Adobe® Photoshop® Elements, Photoshop® Album, Premiere®, Reader®
Adobe Systems Inc.

Web site http://www.adobe.com/support

Telephone 800-685-3652

America Online® (Broadband or Dial-Up)
AOL, Inc.

Web site http://www.aol.com

AOL® Instant Messenger
AOL, Inc.

Web site http://www.aim.com

Click to DVD
Sony Electronics Inc.

At the touch of a button, Click to DVD software allows you to automatically burn DVDs from a digital video (DV) device. Create DVDs by capturing video content straight from a DV device or by importing video from stored files — and you can also edit the video. Create DVD photo albums and slide shows with picture files or by importing pictures from a digital still camera. What's more, you can easily give a professional look to your DVDs by adding chapter menus, backgrounds, and menu screens. You are only a few clicks away from your own DVDs!

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

DVgate Plus
Sony Electronics Inc.

Connect a compatible digital video camera to your computer's i.LINK® port and capture video clips and still images. Edit clips from your video, add new clips, and combine clips into new movie segments. Save your movies back to your digital video camera or in a variety of popular file formats.

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

Google Toolbar
Google, Inc.

Web site http://toolbar.google.com/help.html

Microsoft® Office Basic Edition, Office Professional Edition, Office Small Business Edition, Office Small Business Edition Trial Version, Office Student and Teacher Edition Trial Version
Microsoft Corp.

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

Microsoft® Internet Explorer, Movie Maker, Media® Player, Works
Microsoft Corp.

Web site http://support.microsoft.com

MoodLogic
MoodLogic, Inc.

Web site http://www.moodlogic.com/support

E-mail help@moodlogic.com

Netscape® Internet Service
AOL Inc.

Web site http://isp.netscape.com/help

Telephone 866-541-8233

Norton Internet Security
Symantec Corporation

Web site http://www.symantec.com/techsupp

PictureGear Studio
Sony Electronics Inc.

PictureGear Studio still image management software displays still images from your hard drive or a Sony digital still camera. The still images appear in a convenient light-table format so that you can easily view the contents of an entire folder, create your own photo albums, and make prints.

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

Quattro Pro®
Corel Corporation

Web site http://www.corel.com

Quicken® New User Edition
Intuit Inc.

Web site http://www.intuit.com/support/quicken/

RecordNow!
Sonic Solutions

Web site http://support.sonic.com/

SonicStage®
Sony Electronics Inc.

The SonicStage jukebox software program gives you all the tools you need to manage music on your computer. SonicStage software sports high-quality digital audio storage, a sleek player skin design, and audio CD burning capability.

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

SonicStage® Mastering Studio
Sony Electronics Inc.

Use SonicStage® Mastering Studio software to record songs from analog records or cassette tapes into your computer and output them to CD-R or CD-RW discs or audio files in WAV format.

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

SpySubtract®
InterMute, Inc.

Web site http://www.intermute.com/support.html

VAIO Action Setup
Sony Electronics Inc.

VAIO Action Setup manages the settings for your computer's shortcut keys.

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

VAIO Control Center
Sony Electronics Inc.

VAIO Control Center provides a central location that gathers resources to configure your VAIO® personal computer and view your computer's configuration and specifications

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

VAIO Edit Components
Sony Electronics Inc.

VAIO Edit Components is a software plug-in for Adobe® Premiere® software that provides maximum compatibility and video quality for capturing video from your Sony digital camcorder.

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

VAIO Media
Sony Electronics Inc.

VAIO Media software brings multimedia to your network, enabling you to share music, video, and still image files between your VAIO® computers. You can set up one or more computers as "media servers," which store your multimedia files and make them available to other compatible VAIO computers on your wired or wireless network.

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

VAIO Update
Sony Electronics Inc.

The VAIO Update utility helps you keep your VAIO® computer up to date by regularly checking the Sony Online Support Web site for important software updates and information for your specific VAIO computer model.

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

VAIO Wireless Utility
Sony Electronics Inc.

The VAIO Wireless Utility walks you through setting up your wireless network connection and offers useful diagnostic tests to help keep your wireless network running smoothly.

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

VAIO Zone
Sony Electronics Inc.

VAIO Zone software provides an effortless way to browse and enjoy pictures, music, and video files on your computer, all through an elegant, next-generation interface. You can even enjoy media content stored on other VAIO® computers on your network. On VAIO computer models with a recordable DVD drive, VAIO Zone enables you to record video and slide shows of pictures to DVD. On VAIO computer models with a built-in TV tuner, VAIO Zone includes a complete personal video recorder, enabling you to record TV programs and burn them to DVD.

Web site http://www.sony.com/pcsupport

Telephone 888-4-SONY-PC (888-476-6972)

WinDVD® for VAIO®
InterVideo, Inc.

Web site http://www.intervideo.com/jsp/Support.jsp

Telephone 510-651-0888

WordPerfect®
Corel Corporation

Web site http://www.corel.com/